ecomaine
Cumberland County
Portland, Maine
A-283-70-F-R/A

Departmental
Findings of Fact and Order
Part 70 Air Emission License
Renewal /Amendment

FINDINGS OF FACT

After review of the Part 70 License renewal and amendment applications, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	ecomaine
LICENSE TYPE	Part 70 License Renewal, Part 70 Significant License Modification
NAICS CODES	562213 Solid Waste Combustors and Incinerators
NATURE OF BUSINESS	Municipal Waste Combustion
FACILITY LOCATION	64 Blueberry Road, Portland, Maine

ecomaine is a waste disposal and recycling organization owned and operated by 20 municipalities. The waste-to-energy process converts solid waste into an ash residue, which minimizes landfill reliance in the State and produces electricity from the fuel value of the trash.

This facility has the potential to emit more than 100 tons per year (TPY) of nitrogen oxides (NO_X) and carbon monoxide (CO); therefore, the source is a major source for these criteria pollutants. Based on Maine DEP Air Toxics Inventory data, ecomaine does not have the potential to emit 10 TPY or more of a single hazardous air pollutant (HAP) or 25 TPY or more of combined HAP; therefore, the source is an area source for HAP.

B. Emission Equipment

1. Licensed Emission Units

The following emission units are addressed by this Part 70 License:

Municipal Solid Waste Combustors

Municipal Waste Combustors (MWC)	Max. Heat Input Capacity (each)	Max. Firing Rate (each)	Year of Manufacture & Installation	Stack #
MWC A	122 MMBtu/hr firing waste 46.75 MMBtu/hr firing natural gas	275 tons/day municipal solid waste 45,835 scf/hr natural gas* (auxiliary burners)	1987	Boiler A Stack
MWC B				Boiler B Stack

* based on 1020 Btu/scf of natural gas

Generator

Equipment	Max. Input Capacity (MMBtu/hr)	Max. Firing Rate (gal/hr)	Output	Fuel, % sulfur	Date of...		Stack #
Emergency Generator	5.25	37.5	540 kW (750 hp)	Distillate Fuel, 0.0015%	Manufacture:	1988	Generator Stack
					Installation:	1988	

Process Equipment

Equipment	Emissions Control Methods
Ash Handling System	Ash Conditioning
Lime and Carbon Silos	Fabric Filters

2. Insignificant Activities

This facility has additional units and/or activities which are considered insignificant and not applicable for inclusion in the emission equipment tables above. These insignificant activities include fuel-burning units below State licensing thresholds and with no applicable requirements in 40 CFR Part 63, Subpart JJJJJJ because of each unit's size and/or the type of fuel fired. The complete list of insignificant activities can be found in the Part 70 license application and in Appendix B of *Part 70 Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 140 (as amended).

C. Application Classification

The application submitted by ecomaine is for the renewal of their existing Part 70 Air Emission License and the following subsequently issued Part 70 amendments:

- A-283-70-B-A (January 25, 2006), a Part 70 Administrative Revision which included the revision of report due dates, the annual compliance certification due date, and stack testing due dates.

- A-283-70-E-A (March 10, 2008), a Part 70 502(b)(10) change which included the revision of carbon injection averaging time to be consistent with the requirements of 40 CFR Part 60, Subpart Eb.

The New Source Review (NSR) license A-283-77-3-M was issued to ecomaine on February 4, 2010, which addressed recently promulgated state mercury statutes. The terms and conditions of the 2010 NSR license are being incorporated into this Part 70 license renewal pursuant to Section 2(A) of 06-096 CMR 140.

ecomaine has also submitted an application for a Part 70 license modification to remove the requirement for continuous emission rate monitoring systems (CERMS) on the facility's two MWC units. Additionally, ecomaine's amendment application includes proposed language to clarify and streamline data collection requirements to more accurately quantify daily facility throughput. The application does not include the licensing of increased emissions; however, the revision of CERMS requirements could be considered a relaxation of testing and reporting license terms or conditions.

Therefore, this license is considered to be a Part 70 Significant License Modification and a Part 70 License renewal with the incorporation of NSR requirements, processed under *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended).

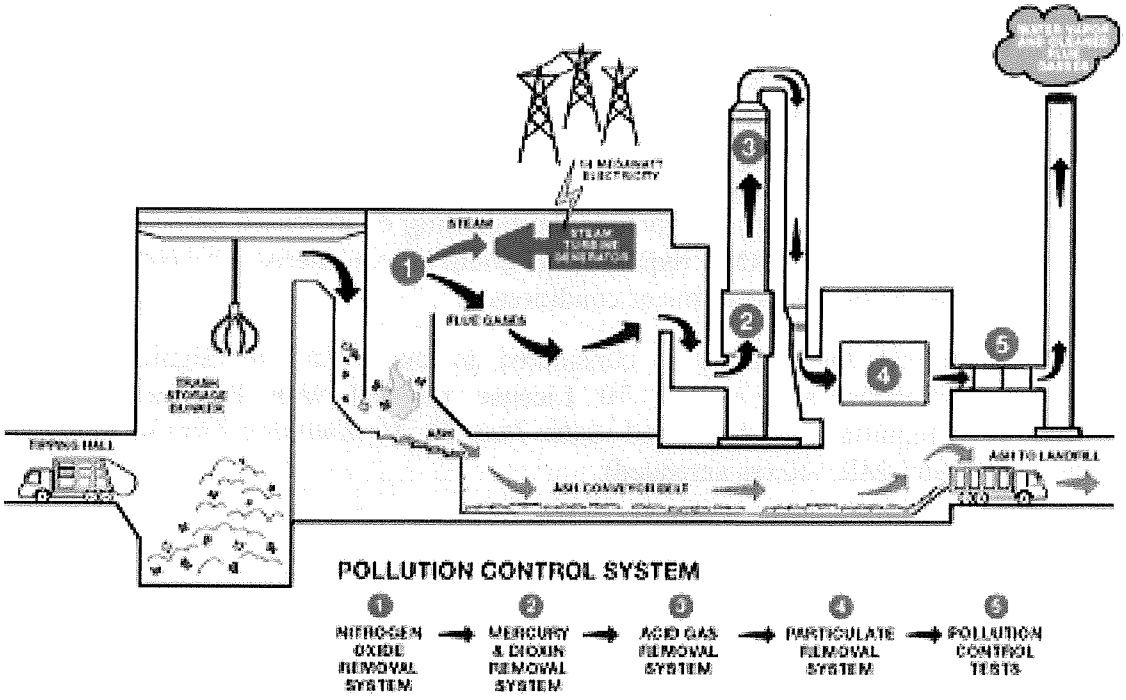
D. Facility Description

ecomaine operates a waste-to-energy (WTE) facility and a recycling facility on Blueberry Road in Portland, Maine. Construction of this facility was completed and operation commenced in 1988. A Recycling Center was added to ecomaine's operations in 1990, and single-stream recycling was added in 2007. The plant is scheduled to operate 24 hours a day, seven days a week, and 365 days a year.

The WTE facility is a mass burn, water wall design. "Mass burn" refers to the minimal separation and segregation that is performed on the incoming solid waste. "Water wall" means that the facility's combustion units include integral boilers. The objective of the waste-to-energy facility is twofold: to reduce the volume of the trash (reduction of approximately 90%) and thereby greatly reduce landfill disposal needs; and to generate electricity.

The facility consists of two waste combustor/boiler trains, one turbine generator, and auxiliary equipment which together convert the latent energy in the waste feed into steam, which is then used in the turbine generator to generate electricity. Each of the two MWC/boiler trains has a maximum design continuous rating of 275 tons/day of municipal solid waste (MSW). Combustion gases reaching 1800-2000 °F proceed from the boiler chamber to the superheater and evaporator sections. The gases then go through an economizer to extract more heat from the

steam in transit to the turbine, where 14 MW of electricity are generated hourly. The boilers' design ratings of steam output are 752 °F and 600 psig. After energy is extracted from the steam, the steam is condensed back into water using a water-cooled condenser. The condensate is then used as feedwater for the boilers and as make-up water for the reverse osmosis system. Water is circulated through the main condenser tube bundle; picking up heat and sending it back to the top of the cooling tower, where fans help dissipate the heat through evaporation. City water may be added to the cooling tower basin to help maintain proper operating levels.



MSW is transported in trucks from residential and commercial participants to ecomaine's Scale House, where an initial weight is obtained prior to entry to the Tipping Floor. From the Tipping Floor, the MSW is pushed into the refuse bunker. The Crane Cab Operator uses two overhead bridge cranes to mix the waste and then place it into a boiler feed hopper. Waste is fed continuously and independently into each MWC unit via the feed hopper and fuel feed shaft. Two hydraulic, mechanical rams push the waste from the fuel feed shaft onto the first furnace grate. Waste bed depth on the grate is controlled by adjusting the stroke of the two ram feeders; additional bed depth adjustments may be made by adjusting the time between refuse feed cycles. Once fed into the furnace, waste is transported down an inclined grate system (12.5° slope) through the reciprocation of every other row of grate bars.

Combustion air is supplied from beneath each of the five grate sections (underfire air) and above the waste (overfire air). Air flow to each of the five under-grate

zones is distributed by a manually operated damper. Underfire air may be preheated using steam coil air preheaters to assist in the combustion of wet fuel.

Overfire air is introduced above the combusting waste through nozzles located on the front and rear walls of the furnace. The overfire air provides oxygen and turbulence to the combusting gases above the MSW fuel bed. Proper control of combustion gases and stoker firing equipment results in optimal temperatures and flow of combustion gases through the furnace. Correct combustion control settings and stoker operation are indicated by complete burn-out of the refuse, proper furnace temperatures, steady steam flow rates, and a boiler oxygen concentration of approximately 8.5% (dry).

The steps in the boiler grate bed design allow the waste to tumble or roll-over, which aids in achieving complete combustion. Bottom ash, the resultant ash on the grates, drops off the last grate section into the wet ash drag and quench tank of the ash extractor. The ash quench tank is filled with waste water reused from other facility processes. There, the ash is cooled and drained, and then it is deposited onto a vibrating conveyor for removal. Fly ash collected from emission control equipment is conveyed to a mixer/conditioner and then combined with bottom ash for disposal. Non-combusted metal in the bottom ash is recovered by a rare earth magnet at the end of the incline conveyor.

The boilers are designed to continuously combust MSW without the firing of supplemental natural gas fuel. Natural gas is used for startup or to stabilize boiler operations as needed.

Emission Control Equipment
Flue gases are treated by a series of air pollution control devices to remove oxides of nitrogen (NO_x), acid gases (primarily SO_2 and HCl), particulate matter (PM), heavy metals, polychlorinated dibenzodioxins (PCDD), and polychlorinated dibenzofurans (PCDF). Selective non-catalytic reduction (SNCR), dry scrubbing, electrostatic precipitation, and activated carbon injection are used to remove these pollutants. Each MWC unit is equipped with a set of air pollution control devices identical to the other. After passing through the pollution control equipment, the exhaust gases are pulled by the negative pressure of the induced draft fan and exit through the stack.

Continuous Emissions Monitoring Systems (CEMS)
Beyond the electrostatic precipitator (ESP) in the breeching for each MWC prior to the stack, ecomaine continuously monitors emissions of NO_x, CO, SO_2 (along with SO_2 concentrations at the inlet of the spray dryer absorber, or scrubber), CO_2 and/or O_2, and opacity. The CEMS consist of two virtually identical systems, one dedicated to each MWC. NO_x monitoring is conducted to measure the performance of the SNCR system (in boiler) and compliance with the daily NO_x limit. SO_2 is measured both before and after the spray dryer absorber (scrubber) as an indicator of the performance of the control equipment, and opacity data is

used as an indication of the performance of the ESP in removing PM. Continuous CO and O_2 emissions data inform boiler operation to ensure maximum efficiency of the combustion process at all times despite the continuously changing fuel characteristics presented by heterogeneous MSW.

E. Applicable Requirements

ecomaine is subject to the following state and federal regulations listed below, in addition to regulations listed for specific units described further in this license.

Citation	Requirement Title
06-096 CMR 101	Visible Emissions Regulation
06-096 CMR 102	Open Burning
06-096 CMR 103	Fuel Burning Equipment Particulate Emission Standard
06-096 CMR 104	Incinerator Particulate Emission Standard
06-096 CMR 105	General Process Source Particulate Emission Standard
06-096 CMR 106	Low Sulfur Fuel Regulation
06-096 CMR 109	Emergency Episode Regulations
06-096 CMR 110	Ambient Air Quality Standards
06-096 CMR 114	Classification of Air Quality Control Regions
06-096 CMR 115	Major and Minor Source Air Emission License Regulations
06-096 CMR 116	Prohibited Dispersion Techniques
06-096 CMR 117	Source Surveillance – Emissions Monitoring
06-096 CMR 121	Emission Limitations and Emission Testing of Resource Recovery Facilities
06-096 CMR 130	Solvent Cleaners
06-096 CMR 137	Emission Statements
06-096 CMR 138	Reasonably Available Control Technology for Facilities that Emit Nitrogen Oxides
06-096 CMR 140	Part 70 Air Emission License Regulations
06-096 CMR 143	New Source Performance Standards
06-096 CMR 144	National Emission Standards for Hazardous Air Pollutants
40 CFR Part 60, Subpart A	General Provisions
40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 60, Subpart Cb	Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors that are Constructed on or Before September 20, 1994
40 CFR Part 63, Subpart ZZZZ	National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR Part 64	Compliance Assurance Monitoring
40 CFR Part 70	State Operating Permit Programs

Note: CMR = Code of Maine Regulations; CFR = Code of Federal Regulations

F. Units of Measurement

The following units of measurement are used in this license:

Btu/lb	British thermal units per pound
Ccf	Centum cubic feet = 100 cubic feet
g/s	grams per second
gr/dscf	grains per dry standard cubic feet
lb/hr	pounds per hour
lb/MMBtu	pounds per million British Thermal Units
lb/ton	pounds per ton
$\mu g/m^3$	micrograms per cubic meter
µg/dscm	micrograms per dry standard cubic meter
mg/dscm	milligrams per dry standard cubic meter
MMBtu/hr	million British Thermal Units per hour
MW	megawatt
ng/dscm	nanograms per dry standard cubic meter
ppm	parts per million
psia	pounds per square inch (actual)
tons/day	tons per day
tpy	tons per year

II. REGULATORY APPLICABILITY

A. Best Practical Treatment (BPT)

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

Requirements of BPT specific to each emissions unit or area are included in this license.

B. NO_X RACT (Reasonably Available Control Technology)

Reasonably Available Control Technology for Facilities that Emit Nitrogen Oxides, 06-096 CMR 138 (as amended) is applicable to sources that have the

potential to emit quantities of NO_x equal to or greater than 100 tons/year. The units MWC A and MWC B are subject to the NO_x emission limit and NO_x monitoring as specified in 06-096 CMR 138 (3)(G)(1) and (2).

The emergency generator at the facility is limited to 100 hours per year of non-emergency operation (i.e., testing and maintenance) on a 12-month rolling total basis, which keeps NO_x emissions under 10 tons/year and thus renders the unit as exempt per 06-096 CMR 138 (1)(B)(1).

The NO_x RACT requirements for MWC A and MWC B are incorporated into this renewal.

C. VOC RACT

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds, 06-096 CMR 134 (as amended) is applicable to sources that have the potential to emit quantities of VOC equal to or greater than 40 tons/year, but exempts VOC emissions which result from incomplete combustion. Because the VOCs emitted from this facility result only from incomplete combustion, ecomaine is exempt from VOC RACT requirements according to 06-096 CMR 134 (1)(C)(4).

D. PSD/BACT Review

No Prevention of Significant Deterioration (PSD) licenses involving major modifications have been issued to the facility since the initial Part 70 license. New Source Review (NSR) license A-283-77-3-M was issued February 4, 2010, to incorporate mercury emissions requirements of 38 MRSA, §585-B §§5 (as amended and effective September 12, 2009) into the Part 70 license.

E. Compliance Assurance Monitoring (CAM)

Federal regulation 40 CFR Part 64, *Compliance Assurance Monitoring,* is applicable to any unit at a major source if the unit has (1) emission limits, (2) a control device to meet the limits, and (3) pre-control emissions greater than 100 tons/year for any applicable pollutant. For emissions from MWC A and MWC B, the following pollutants have pre-control emissions greater than 100 tpy and the following control devices:

Pollutant	Control Method
PM	cyclone and an ESP
SO_2	lime slurry dry scrubber and the ESP
NO_x	SNCR

Thus, these pollutants meet the applicability criteria for CAM requirements.

However, 40 CFR Part 64, §64.2(b)(1)(i) specifies the exemption from specific CAM requirements for any emission units subject to emission limitations or standards in a NSPS or NESHAPs regulation proposed by the Administrator after November 15, 1990. Furthermore, 40 CFR §64.2(b)(1)(vi) specifies the exemption from specific CAM requirements for any emission units subject to emission limitations or standards for which a Part 70 air emission license specifies a continuous compliance determination method. [40 CFR Part 64 §64.2(b)]

The following table lists the specific pollutants for these units meeting CAM applicability criteria and the determination of the applicability of CAM requirements for each.

40 CFR Part 64 Applicability Table

Units	Eligible Pollutant	CAM Required	Reason CAM is Not Applicable	Regulatory Authority
MWC A and MWC B	PM	No	Subject to emissions limits in NSPS 40 CFR Part 60, Subpart Db, proposed after November 15, 1990	40 CFR §64.2(b)(1)(i)
	SO_2	No	Operating a SO_2 CEMS	40 CFR §64.2(b)(1)(vi)
	NO_x	No	Subject to emissions limits in NSPS 40 CFR Part 60, Subpart Cb, proposed after November 15, 1990; and Operating a NO_x CEMS	40 CFR §64.2(b)(1)(vi)

Therefore, there are no units at ecomaine subject to CAM requirements.

F. Stack Testing for Particulate Matter

The previous license contained the requirement of annual stack testing of Units A and B for particulate matter. Since the issuance of the initial Part 70 air emission license, the statutory requirement of 38 M.R.S.A. §589 §§2 was revised to allow stack tests for particulate matter every five years on a source monitored by a continuous opacity monitoring system (COMS). However, 40 CFR §60.58b(c)(9), as incorporated in 06-096 CMR 121, requires that the facility conduct a performance test for particulate matter every calendar year, with each subsequent test conducted no less than nine calendar months and no more than 15 calendar months following the previous performance test; and such that five performance tests are conducted in each five-year calendar period. Thus, ecomaine shall continue to conduct PM stack testing annually on MWC A and MWC B.

III. BEST PRACTICAL TREATMENT (BPT) and EMISSION STANDARDS

A. MWC A and MWC B Description

MSW Combustors A and B are identical in size and configuration, including all add-on control systems. The MWC units were manufactured by L&C Steinmuller GmbH in 1987, each with an operating capacity of 275 tons of municipal solid waste per day, including waste types 0, 1, 2, 3, and 6 as defined in *Definitions Regulation*, 06-096 CMR 100. Biomedical and Resource Conservation and Recovery Act (RCRA) hazardous wastes are unacceptable wastes. Each combustor also has a natural gas-fired auxiliary burner with a maximum design heat input rate of 46.75 MMBtu/hour.

Emissions from the MWCs exhaust through separate control equipment to a common stack with two flues, each of which has an inside diameter of 48 inches and an above ground level (AGL) height of 218 feet.

B. Control Equipment

Emissions of air pollutants are controlled through the use of pollutant-specific control equipment. ecomaine shall maintain records of all pollution control equipment inspection and maintenance.

Particulate matter emissions (PM, PM_{10}), including heavy metals such as cadmium (Cd) and lead (Pb), are controlled from each MWC by dry scrubbers and auxiliary equipment, followed by an ESP. Flue gas containing pollutants enters a cyclone separator, where larger particles of ash are removed. The flue gas leaves the cyclone separator through four nozzle tubes in the top of the cyclone and move into the "up flow" scrubber vessel for acid gas removal. From there, flue gas enters an ESP for particulate removal.

The electric curtains inside each ESP consist of discharge electrodes, suspended between grounded vertical plates, which impart a charge to particulate matter in the flue gas stream, causing the particles to be attracted to and collect on the six oppositely charged plates. Hammer rappers of each five-field ESP systematically rap the collected particulate, known as flyash, off the plates into a hopper and onto the ash conveyor system. Flyash is conveyed to a mixer conditioner for stabilization with water to reduce risk of dust, and then combined with bottom ash for disposal at the ashfill.

Sulfur dioxide (SO_2) and acid gases (HCl and acids which form from SO_2, such as H_2SO_3 and H_2SO_4) emissions are controlled by the use of dry scrubber absorption and the ESP. In the dry scrubber, lime slurry is atomized by air injection nozzles and introduced into the boilers' flue gases. The atomized slurry absorbs HCl and SO_2 from the flue gas to neutralize 80-95% of acid gases in the exhaust flow (approximately 80% SO_2 removal and 95% HCl removal). As the slurry is

sprayed, the liquid portion evaporates due to heat transfer from the hot flue gas; wall scrapers are utilized to dislodge the resulting solids from the wall to ensure free flow of the flue gas.

Nitrogen oxide (NO_x) emissions from each unit are controlled through the use of selective non-catalytic reduction (SNCR) technology which was installed in 2000. The NO_x is reduced to nitrogen (N_2) and water through the injection of urea into the boiler.

Mercury (Hg) and dioxin/furans (PCDD/PCDF, polychlorinated dibenzo-dioxin/ polychlorinated dibenzo-furan) emissions are removed from the flue gas stream of the two MWCs through the use of a powdered activated carbon injection system, originally licensed in October of 2000. ecomaine commissioned a feasibility study in 2008 to explore alternative mercury control technology. Based on that analysis, the carbon injection system is the most feasible and practicable control method and is confirmed to be BPT for mercury emissions.

C. New Source Performance Standards (NSPS): 40 CFR Part 60

1. Subpart Cb

Federal regulation 40 CFR Part 60, Subpart Cb, *Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors that are Constructed On or Before September 20, 1994*, is applicable to the ecomaine facility. This subpart contains guidelines applicable to each MWC unit with a combustion capacity greater than 250 tons per day of MSW for which construction was commenced on or before September 20, 1994. Each of ecomaine's two combustors is a mass burn waterwall unit manufactured before this date and designed to combust up to 275 tons/day of MSW.

Subpart Cb includes requirements for emissions of metals, acid gases, organics, and NO_x (§60.33b); combustor operating practices (§60.34b); operator training and certification (§60.35b); fugitive ash emissions (§60.36b); compliance and performance testing (§60.38b); and reporting and recordkeeping (§60.39b). These NSPS requirements are addressed in this air emission license.

2. Subpart Db

Because of the steam generating function of the MWC systems, the two units are subject to NSPS 40 CFR Part 60, Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*. These standards apply to steam generating units with a heat input capacity of 100 MMBtu/hour or more that are constructed after June 19, 1984.

In accordance with Subpart Db identifiers, this facility "combusts municipal-type solid waste and other fuels" (natural gas). The operation of

MWCs A and B is limited to a combined natural gas annual capacity factor of 10% or less, as specified under 40 CFR Part 60, Subpart Db, such that ecomaine is not subject to the NO_x emission standard specified under 40 CFR §60.44b. [40 CFR Part 60, Subpart Db, §60.44b(k)]

In accordance with this Subpart, ecomaine shall record and maintain records of the amount of natural gas and municipal-type solid waste combusted during each day and calculate the annual capacity factor individually for each fuel for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [40 CFR Part 60, Subpart Db, 60.49b(d)]

3. Subpart E

Because MWC A and MWC B are subject to 40 CFR Part 60, Subpart Cb, they are not covered by this subpart. [40 CFR Part 60, Subpart E, §60.50(c)]

D. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

There are no NESHAP applicable to ecomaine's MSW combustor units.

E. 06-096 CMR 121

The facility is subject to applicable requirements of 06-096 CMR 121, *Emission Limitations and Emission Testing of Resource Recovery Facilities*. These requirements are included in this air emission license.

F. Emission Limits and Streamlining

1. Table of Emission Limits and Streamlining

ecomaine accepts streamlining for applicable emissions standards for PM, NO_x, dioxins/furans, and Hg. For MWCs A and B, a listing of applicable emission standards, the origin and authority of each standard, and the applicable emission limits and associated averaging periods after streamlining, as appropriate, are presented here. The origin and authority of the most stringent limit upon which the streamlined emission limit is based is presented in **bold type**.

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits For Each Unit
PM	0.08 gr/dscf @ 12% CO_2, 2-hr sampling period (~ 183 mg/dscm)	06-096 CMR 104 (2)(C) (as referenced by 06-096 CMR 103 (2)(A)(4))	24 mg/dscm @ 7% O_2, 3-run average basis
	25 mg/dscm @ 7% O_2	06-096 CMR 121 (5)(A)(1) and 40 CFR Part 60, Subpart Cb, §60.33b(a)(1)(i)	
	24 mg/dscm @ 7% O_2	**A-283-71-J-M (October 10, 2000), BPT**	
	0.1 lb/MMBtu (~ up to 16.6 lb/hr)	40 CFR Part 60, Subpart Db, §60.43b(d)(1)	3.43 lb/hr
	3.43 lb/hr	A-283-70-A-I (December 14, 2005), BPT	
PM_{10}	3.43 lb/hr		3.43 lb/hr
SO_2	29 ppmdv @ 7% O_2 or 80% reduction by weight or volume, whichever is less stringent	40 CFR Part 60, Subpart Cb §60.33b(b)(3)(i) and 06-096 CMR 121 (5)(A)(5) and A-283-71-J-M (October 10, 2000), BPT	29 ppmdv @ 7% O_2 or 80% reduction by weight or volume*; 24-hr daily geometric mean
SO_2	11.04 lb/hr	A-283-70-A-I (December 14, 2005), BPT	11.04 lb/hr, 24-hour basis
NO_x	205 ppmv @ 7% O_2	40 CFR Part 60, Subpart Cb §60.33b(d) and Table 1; and 06-096 CMR 121 (5)(A)(8)	180 ppmdv @7% O_2, 24-hour daily arithmetic average
	200 ppmv @ 7% O_2, 24-hour daily block arithmetic average	06-096 CMR 138 (3)(G)(1), NO_x RACT	
	180 ppmdv @7% O_2	**A-283-72-C-M (February 3, 1995), BPT**	
	49.22 lb/hr	A-283-70-A-I (December 14, 2005), BPT	49.22 lb/hr, 24-hour basis
CO	100 ppmdv @ 7% O_2, 4-hr block average	40 CFR Part 60, Subpart Cb §60.34b(a) and Table 3; and 06-096 CMR 121 (5)(A)(9) and A-283-71-J-M (October 10, 2000), BPT	100 ppmdv @ 7% O_2, 4-hr block average
CO	16.65 lb/hr	A-283-70-A-I (December 14, 2005), BPT	16.65 lb/hr, 4-hour average basis
VOC	0.027 lb/MMBtu	A-283-71-J-M (October 10, 2000), BPT	0.027 lb/MMBtu
	1.5 lb/hr	A-283-70-A-I (December 14, 2005), BPT	1.5 lb/hr

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits For Each Unit
Visible Emissions	10% opacity on a six-minute block average basis	A-283-71-A-N (February 12, 1986), BACT and 06-096 CMR 121 (5)(A)(2) and 40 CFR Part 60, Subpart Cb, §60.33b(a)(1)(iii)	10% opacity on a six-minute block average basis
Hydrogen Chloride (HCl)	29 ppmdv @ 7% O_2 or 95% reduction by weight, whichever is less stringent	A-283-71-J-M (October 10, 2000), BPT and 40 CFR Part 60, Subpart Cb §60.33b(b)(3)(ii) and 06-096 CMR 121(5)(A)(6)	29 ppmdv @ 7% O_2 or 95% reduction by weight, whichever is less stringent; 3-run average basis
Dioxins/Furans (PCDD/PCDF) total mass basis	60 ng/dscm @ 7% O_2	A-283-71-J-M (October 10, 2000), BPT	25 ng/dscm @ 7% O_2, 3-run average basis, minimum run duration of 4 hours
	35 ng/dscm @ 7% O_2	40 CFR Part 60, Subpart Cb §60.33b(c)(1)(ii)	
	25 ng/dscm @ 7% O_2	**06-096 CMR 121(5)(A)(7)**	
Cadmium (Cd)	0.04 mg/dscm @ 7% O_2	A-283-71-J-M (October 10, 2000), BPT	35 µg/dscm (0.035 mg/dscm) @ 7% O_2, 3-run average basis
	35 µg/dscm (0.035 mg/dscm) @ 7% O_2	**40 CFR Part 60, Subpart Cb §60.33b(a)(2)(i)** and **06-096 CMR 121(5)(A)(3)**	
Mercury (Hg)	50 µg/dscm (0.050 mg/dscm) @ 7% O_2 or 85% reduction by weight, whichever is less stringent	40 CFR Part 60, Subpart Cb §60.33b(a)(3)	28 µg/dscm (0.028 mg/dscm) @ 7% O_2, 3-run average basis
	28 µg/dscm (0.028 mg/dscm) @ 7% O_2 or 85% reduction by weight, whichever is less stringent	**A-283-71-J-M (October 10, 2000), BPT** and **06-096 CMR 121(5)(A)(4)**	
	25 lb/yr limit or 90% reduction by weight	38 MRSA, §585-B sub-§5	25 lb/yr or 90% reduction by weight
Lead (Pb)	400 µg/dscm (0.40 mg/dscm) @ 7% O_2	40 CFR Part 60, Subpart Cb §60.33b(a)(4) and 06-096 CMR 121(5)(A)(3) and A-283-71-J-M (October 10, 2000), BPT	400 µg/dscm (0.40 mg/dscm) @ 7% O_2, 3-run average basis
Ammonia	10 ppmdv @ 7% O_2	A-283-71-J-M (October 10, 2000), BPT	10 ppmdv @ 7% O_2, 3-run average basis

* ecomaine shall limit the use of the 80% reduction of SO_2 compliance demonstration method to no more than ten days per year, on a 12-month rolling total basis. [A-283-70-A-I (December 14, 2005), BPT]

2. Arsenic (As), Nickel (Ni), Chromium (Cr), and Beryllium (Be)

Emission limits for arsenic (As), nickel (Ni), chromium (Cr), and beryllium (Be) were identified as "to be determined" in the facility's initial Part 70 air emission license, A-283-70-A-I (December 14, 2005). Air emission license A-283-70-B-A (January 25, 2006) required that the facility conduct emissions testing for these four pollutants in 2006 and every three years thereafter, and that the facility propose an emission limit for each pollutant based on the test results. ecomaine has fulfilled the testing and proposal requirements (testing conducted in 2006, 2008, 2011, and 2014).

Maine rule 06-096 CMR 121 requires emissions testing every three calendar years for these four pollutants. ecomaine shall conduct emissions testing at least once every three calendar years for the combined emissions of arsenic (As), nickel (Ni), chromium (Cr), and beryllium (Be) from each MWC unit, in accordance with 40 CFR Part 60, Appendix A, Method 29 or an alternate method approved by the Department. The most recent emissions tests for these pollutants occurred in 2014; thus, the next testing is to be completed before the end of calendar year 2017. [06-096 CMR 121 (5)(D)(5)(a)]

ecomaine shall include as part of the application for renewal of this Part 70 license a proposed numerical emission limit for arsenic (As), nickel (Ni), chromium (Cr), and beryllium (Be), either individually or combined, based on historical test data and additional data from testing conducted subsequent to issuance of this license.

G. Compliance Methods

Compliance with the emission limits associated with MWC A and MWC B shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Pollutant	Units of Limit	Compliance Method	Frequency
PM	mg/dscm @ 7% O_2 lb/hr	40 CFR Part 60, Appendix A, Method 5	Annually*
PM_{10}	lb/hr	40 CFR Part 60, Appendix A, Method 5 or Method 201 or 201A	As requested
SO_2	ppmdv @ 7% O_2 (based on outlet concentration data) or 80% reduction (based on inlet and outlet concentration data)	SO_2 CEMS; 24-hour block average basis, geometric mean; midnight to midnight	Continuously (in accordance with 40 CFR Part 60, App. B)
	lb/hr	40 CFR Part 60, App. A, Method 19 or Method 6C	As requested

Pollutant	Units of Limit	Compliance Method	Frequency
NO_x	ppmdv @ 7% O_2	NO_x CEMS; 24-hour block average basis; midnight to midnight	Continuously (in accordance with 40 CFR Part 60, App. B)
	lb/hr	40 CFR Part 60, App. A, Method 7 or 7E	As requested
CO	ppmdv @ 7% O_2	CO CEMS; four-hour block average basis	Continuously (in accordance with 40 CFR Part 60, App. B)
	lb/hr	40 CFR Part 60, App. A, Method 10	As requested
VOC	lb/MMBtu and lb/hr	40 CFR Part 60, Appendix A, Method 25 or 25A	As requested
Hydrogen Chloride (HCl)	ppmdv @ 7% O_2	40 CFR Part 60, Appendix A, Method 26 or 26A	Annually*
Dioxins/Furans (PCDD/PCDF) total mass basis	ng/dscm @ 7% O_2	40 CFR Part 60, Appendix A, Method 23	Annually**
Cadmium (Cd)	µg/dscm @ 7% O_2	40 CFR Part 60, Appendix A, Method 29	Annually*
Mercury (Hg)	µg/dscm @ 7% O_2 lb/year		
Lead (Pb)	µg/dscm @ 7% O_2	40 CFR Part 60, Appendix A, Method 29	Annually*
Ammonia	ppmdv @ 7% O_2	40 CFR Part 60, Appendix A	Annually*
Visible Emissions	% opacity of emissions	COMS on a six-minute block average basis; monitored continuously in accordance with 40 CFR Part 60, App. B	

* no less than nine and no more than 15 calendar months following the previous performance test; must complete five performance tests in each five-calendar-year period [40 CFR §60.58b, as referenced by 06-096 CMR 121]

** An alternative test schedule may apply in accordance with 06-096 CMR 121(5)(D)(3), which references 40 CFR §60.58b (g)(5)(iii): Where all performance tests over a two-year period indicate that dioxin/furan emissions are less than or equal to 15 ng/dscm total mass at 7% O_2 for all affected facilities located within the facility, ecomaine may elect to conduct annual performance tests for one of the units per year. At a minimum, a performance test for dioxin/furan emissions shall be conducted on a calendar year basis (no less than nine calendar months and no more than 15 months following the previous performance test) for one of the two units at ecomaine. Under the alternative test schedule, a different unit shall be tested each year. If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 15 ng/dscm total mass at 7% O_2, ecomaine may continue conducting a performance test on only one unit per calendar year. If any annual performance test indicates a dioxin/furan emissions level greater than 15 ng/dscm total mass at 7% O_2, performance tests shall thereafter be conducted annually on both units at the facility until and unless all annual

performance tests for both units over a two-year period indicate a dioxin/furan emission level less than or equal to 15 ng/dscm total mass at 7% O_2. [40 CFR §60.38b(b)]

H. Control Equipment Specifications

1. Carbon Injection Systems

   a. *During Each PCDD/PCDF and Hg Performance Test*
   Because activated carbon injection is used to comply with both the mercury emission limit and the dioxin/furan (PCDD/PCDF) emission limits, in accordance with 40 CFR §60.58b (m)(1) as referenced by 06-096 CMR 121, during each performance test conducted for PCDD/PCDF emissions and during each performance test conducted for Hg emissions, ecomaine shall determine the average carbon mass feed rate, in pounds per hour, based on carbon injection system operating parameters such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed. If a dioxin/furan performance test is being performed on only one MWC at ecomaine (see footnote ** to the Emission Limits Compliance Methods table above), ecomaine may elect to apply the same estimated average carbon mass feed rate from the tested MWC for both MWC units at the facility. [40 CFR §60.58b (m)(1), as referenced by 06-096 CMR 121]

   b. *During Carbon Injection System Operation*
   During operation of a MWC, the associated carbon injection system's operating parameter(s) that are the primary indicator(s) of the carbon mass feed rate (e.g., screw feeder setting) shall be averaged over an 8-hour block period, and the 8-hour block average must equal or exceed the level(s) documented during the most recently completed performance test showing compliance with the dioxin/furan emission limits and the most recently completed performance test showing compliance with the mercury emission limits, with the following exception:

   During the annual dioxin/furan or mercury performance test and the two weeks preceding the annual dioxin/furan or mercury performance test **and** with written permission from the Department, no limit is applicable for average mass carbon feed rate for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state of the art for controlling facility emissions. [40 CFR §60.58b (m)(2), as referenced by 06-096 CMR 121]

c. *Carbon Usage Documentation per Calendar Quarter*
ecomaine shall estimate the total carbon usage of the plant (in pounds) for each calendar quarter by the following two independent methods:
(1) Document the weight of carbon delivered to the plant.
(2) Determine the sum of carbon use for both MWC A and MWC B using the average carbon mass feed rate in pounds per hour for each MWC based on the injection system operating parameters (such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed) and the total number of hours of operation during the calendar quarter for both MWCs.
[40 CFR §60.58b (m)(3), as referenced by 06-096 CMR 121]

d. *Instantaneous Carbon Injection System Operational Indicator*
A carbon injection system operational indicator shall be used to provide additional verification of proper carbon injection system operation. The operational indicator shall provide an instantaneous visual and/or audible alarm to alert the operator of a potential interruption in the carbon feed that would not normally be indicated by direct monitoring of carbon mass feed rate (e.g., continuous weight loss feeder) or monitoring of the carbon system operating parameter(s) that are the indicator(s) of carbon mass feed rate (e.g., screw feeder speed). The carbon injection system operational indicator used to provide additional verification of carbon injection system operation, including basis for selecting the indicator and operator response to the indicator alarm, shall be included in ecomaine's site-specific operating manual. [40 CFR §60.58b (m)(4), as referenced by 06-096 CMR 121]

2. ESP Inlet Temperature

a. *During Each PCDD/PCDF Performance Test*
During each PCDD/PCDF emissions performance test, ecomaine shall determine maximum demonstrated ESP inlet temperature, which is the highest four-hour arithmetic average flue gas temperature measured at the ESP inlet during four consecutive hours of the test demonstrating compliance with the applicable limits for each MWC.

b. *During Regular MWC Operation* [40 CFR §60.53b(c), as referenced by 06-096 CMR 121]
During regular operation of the MWCs, the temperature at the ESP inlet shall not exceed 17°C above the maximum demonstrated ESP inlet temperature, except as specified in the following paragraph.

During the annual dioxin/furan or mercury performance test and the two weeks preceding the test, no ESP inlet temperature limitations are applicable if the ESP inlet temperature limits are waived in writing by the

Department for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state of the art for controlling facility emissions.

c. *During Periods of Natural Gas Firing Only*
When either MWC is firing only natural gas, ecomaine may request an exemption to the ESP inlet temperature requirement for the associated ESP. The date, time, duration, and reason for the firing of only natural gas shall be included in the exemption request. [06-096 CMR 140, BPT]

I. Operating Specifications

1. MWC Outage Procedure [A-283-70-A-I (December 14, 2005), BPT]

   a. During periods when neither boiler is in operation, the doors to the tipping floor and bunker areas shall be closed so as to prevent odor emissions, unless the facility is receiving MSW. Alternatively, ecomaine may vent these areas via an induced draft fan to the stack.

   b. During times of prolonged facility outage or maintenance, ecomaine shall follow procedures for waste bypass in order to prevent potential environmental impacts of waste storage, as described in ecomaine's waste receiving procedure manual. There shall be no outside storage of waste.

2. Startup, Shutdown, and Malfunction [40 CFR §60.58b(a), as referenced by 06-096 CMR 121, and A-283-70-A-I (December 14, 2005), BPT]

   Emission standards for MWC A and MWC B apply at all times except during periods of startup, shutdown, and malfunction.

   a. *MWC warm-up* for each MWC unit shall be defined as the period before startup commences, when only fossil fuel (natural gas) is being fired in the unit.

   b. The *startup period* (for both cold and warm startup) for each MWC unit begins when MSW is fed into the feed chute, and does not include any warm-up period when the unit is combusting natural gas with no MSW being fed to the combustor. The startup period ends when continuous burning begins.

   c. *Continuous burning* is the continuous, semi-continuous, or batch feeding of MSW for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of MSW solely to provide thermal protection of the grate or hearth during the startup period when MSW is not being fed to the grate is not considered to be continuous burning.

d. *Emergency shutdown* of a MWC unit begins when MSW is no longer fed into the feed chute for that particular boiler and combustion flows to the primary and secondary air fans for that boiler are shut off.

e. *Durations of Startup, Shutdown, or Malfunction Periods*
(1) Durations of startup, shutdown, or malfunction periods are limited to three hours per occurrence, except as additionally provided for CO emissions in the following paragraph. During periods of startup, shutdown, or malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR §60.59b(d)(7).
(2) For the purpose of compliance with the CO emission limits, if a loss of boiler water level control (e.g., boiler waterwall tube failure) or a loss of combustion air control (e.g., loss of combustion air fan, induced draft fan, combustion grate bar failure) is determined to be a malfunction, the duration of the malfunction period is limited to 15 hours per occurrence. During such periods of malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR §60.59b(d)(7).

f. *Routine shutdown* of a MWC unit begins when MSW is no longer fed into the feed chute for that particular boiler and combustion flow to the primary and secondary air fans of that boiler continues until all MSW is burned and has been discharged to the ash system.

3. Stack O_2 Levels During Warm-up and/or Startup and Shutdown

Stack O_2 levels during MWC warm-up and/or startup and during shutdown that exceed 14.0% may be replaced with a value of 14.0%. In such instances, ecomaine is licensed to recalculate the hourly ppmdv averages for SO_2, NO_x, and CO for compliance purposes. [A-283-70-A-I (December 14, 2005), BPT]

4. Capacity

ecomaine shall ensure that neither boiler train is operated at a rate greater than 275 tons MSW/day and that the total facility is not operated at a rate greater than 550 tons MSW/day. [A-283-71-A-N (February 12, 1986)]

The facility's initial Part 70 license required the amount of MSW fired at the facility to be documented on a weekly basis using scale data and waste storage estimates. The license also included consideration of revision or revocation of this documentation method, based on the facility-reported comparison of the estimated waste-fired data compared to steam/feed water flow data. ecomaine has submitted data and explanation of the inconsistent nature of results from the visual bunker estimate protocol due to the variability of waste moisture content (heavy, moist waste compared with less moist waste, depending on

recent weather conditions) and the uneven landscape of the refuse bunker. ecomaine has proposed the use of steam flow data, already collected per applicable NSPS requirement, to calculate daily MSW throughput. The Department concurs with the facility's justification and proposed calculation method. Thus, ecomaine shall no longer be required to base compliance with the tons MSW/day limitations on scale data and the subjective visual estimation of waste bunker inventories, but shall instead utilize the protocol presented in the following paragraph.

Compliance with the tons MSW/day limits shall be demonstrated and documented daily using steam flow data, a boiler efficiency of 77%, the enthalpy of steam, and a higher heating value (HHV) of the solid waste fuel of 5,311 Btu/lb. Although the HHV can vary depending on the quality of the fuel, this value correlates to the average HHV cited by the Solid Waste Association of North America (SWANA, the trade organization for WTE facilities). If ecomaine conducts testing in the future of fuel heating values, or if SWANA updates the average HHV of MSW based on more recent test data which is representative of ecomaine's fuel, the HHV may be adjusted to reflect the most recently established value. [06-096 CMR 140, BPT]

5. MWC Operating Load Level

In accordance with the requirements of 06-096 CMR 121 and 40 CFR Part 60, Subpart Cb, the operating practices requirements of 40 CFR Subpart Eb apply to all facilities with large municipal waste combustor units such as ecomaine's units. Thus, according to §60.53b of Subpart Eb, the following requirements are applicable to this facility:

a. The maximum demonstrated municipal waste combustor unit load shall be determined during each annual performance test, measured as steam flow or feed water flow, and shall not exceed the capacity limits (275 tons MSW/day per unit, 550 tons MSW/day for the facility) as identified in item 4 above. The maximum demonstrated municipal waste combustor unit load is the highest four-hour arithmetic average load achieved during four consecutive hours of the most recent emissions test during which compliance with the dioxin/furan emission limit was achieved. [06-096 CMR 121 and 140, BPT]

b. Over any four-hour block period, each MWC operating load level shall not exceed 110% of the maximum demonstrated MWC unit load level measured as steam flow or feedwater flow. This restriction shall not apply to the two weeks prior to and during PCDD/PCDF testing, or may be waived in writing by the Department for purposes of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility

performance or advancing the state of the art for controlling facility emissions. [06-096 CMR 121]

J. Continuous Emissions Monitoring (CEMS, COMS, and CERMS)

1. CEMS and COMS

For MWC A and MWC B, the table below lists the continuous emission monitoring systems (CEMS) and the continuous opacity monitoring systems (COMS) required for *each unit*.

Continuous Monitor	Unit of Measurement	Origin and Authority
SO_2 CEMS (both before and after the spray dryer, for each MWC unit)	ppmdv	06-096 CMR 117
NO_x CEMS	ppmdv	06-096 CMR 117 and 06-096 CMR 138 (3)(G)(2)
CO CEMS	ppmdv	06-096 CMR 117 and 121
O_2 and/or CO_2 CEMS*	percent	
Opacity COMS (in each flue)	% opacity	

* at each location where SO_2, NO_x, or CO emissions are monitored

During a malfunction period consisting of the loss of boiler water level control or loss of combustion air control, a diluent cap of 14% for oxygen or 5% for carbon dioxide may be used in the emissions calculations for SO_2 and NO_x. [40 CFR §60.58b (b)(8), as referenced by 06-096 CMR 121]

At a minimum, valid CEMS hourly averages shall be obtained for 90% of the operating hours per calendar quarter and 95% of the operating days per calendar year that the affected facility is combusting MSW. All valid CEMS data shall be used in calculating average emission concentrations and percent reductions even if these minimum CEMS data requirements are not met. [40 CFR §60.58b (e), as referenced by 06-096 CMR 121]

The four-hour block (CO) and 24-hour daily arithmetic averages (NO_x) specified in this license shall be calculated from one-hour arithmetic averages expressed in parts per million by volume corrected to 7% oxygen (dry basis). The one-hour arithmetic averages shall be calculated using the data points generated by the CEMS. At least two data points shall be used to calculate each one-hour arithmetic average. [40 CFR §60.58b (h), as referenced by 06-096 CMR 121]

2. CERMS [A-283-70-A-I (December 14, 2005), BPT]

Continuous mass emission rate monitor systems (CERMS) have been installed and operated since August of 2006 in each of the two stack flues at the

facility. Each CERMS is a system of analyzers, including a flow monitor, wet and dry oxygen monitors, and pollutant-specific CEMS. The CERMS measure the flow rate of the exhaust gas, then use the measured flow rate and pollutant concentrations obtained from the CEMS to calculate mass emission rates (lb/hr) for SO_2, NO_x, and CO. CERMS are operated and maintained in accordance with 40 CFR Part 60, Appendix B, Performance Specification 6, *Specifications and Test Procedures for Continuous Emission Rate Monitoring Systems in Stationary Sources*.

The facility's initial Part 70 license included the following requirements pertaining to CERMS:

- After two years of CERMS operation, CERMS data was to be evaluated to determine if operation of the CERMS should continue to be required;
- The facility was to submit a report of the collected data and its comparison with alternative methods of calculating mass emissions; and
- The facility was to operate the CERMS until such time as the Department requires a different calculation method.

ecomaine has reported the data, submitted the comparisons report, and continued to operate the CERMS as required.

ecomaine's license amendment application to remove CERMS requirements included documentation of data and justification of why the removal of CERMS is appropriate. Such justification includes the following reasons:

- There is no precedent for mandating CERMS in Maine or in most of the rest of the U.S. for MWC facilities.
- While Maine air emission licenses often include emission limits expressed in lb/hr to coincide with modeling parameters used to demonstrate compliance with AAQS, compliance with lb/hr emission limits is most often determined on the basis of annual (or other specified frequency) stack testing.
- CERMS are not specifically required for the ecomaine facility under any applicable federal NSPS, NESHAP, RACT, or MACT regulations or under any applicable Maine regulations. There is no requirement for installation of flue gas flow monitoring equipment or compliance with mass emission rates on a continuous basis for MWC facilities.
- CERMS data are redundant (at best) for air emissions monitoring and compliance. Relative Accuracy Test Audits (RATA) are conducted annually on the SO_2, NO_x, and CO CEMS, which are mini-stack tests using the same EPA methods used in full stack tests. Thus, redundancy for compliance is demonstrated both through the annual RATA and ecomaine's CERMS monitors.
- The calculation of mass emission rate by a CERMS is dependent on the measurements recorded by four instruments, along with temperature and pressure measurements. Each instrument has an associated bias and

precision, and these innate inaccuracies are propagated through the calculation of mass emission rate.

- Variability of the flow monitor measurements during boiler start-up events has been documented. Issues with inconsistent measurements due to "clean" sensors versus when a layer of ash "insulates" the sensors have been noted.
- ecomaine has consistently been in substantial compliance with the mass emission rate limits, with few exceptions, since commencement of operation of the CERMS.
- There is no evidence that CERMS improve facility performance, enhance boiler control, or improve environmental quality of the MWC operation.

On the basis of these arguments and other supporting data and documentation as provided with the application, ecomaine requests to demonstrate compliance with the mass emission rate limits by means of compliance stack testing while demonstrating compliance with concentration-based limits using CEMS for the three pollutants.

The Department finds that the use of CERMS does not provide vital, more accurate, or more reliable information, nor does it enable ecomaine to improve its operational control or to improve environmental quality. Thus, ecomaine shall not be required to continue operation of the CERMS upon issuance of this license. Compliance with mass emission limits for SO_2, NO_x, and CO from the MWCs shall be demonstrated through emissions testing upon request from the Department.

K. Periodic Monitoring

ecomaine shall monitor and record values for MWC A and MWC B and their associated air pollution control equipment as indicated in the following table whenever the equipment is operating. [A-283-70-A-I (December 14, 2005) and 06-096 CMR 140, BPT; 40 CFR Part 60, Subpart Db, 60.49b(d) for natural gas]

MWC A and MWC B (*each*)				
	Units of	Monitoring	Frequency	
Value	Measure	Tool/Method	Monitor	Record
MSW Charging Rates	Tons	Tipping Floor Records	Weekly, Annually	
Steam flow and/or feedwater flow	Pounds per hour	Flow meter	Continuously*	Hourly and 4-hour block
Operating Time	Hours	Boiler control system (DCS)	Daily, monthly, and annually (calendar year basis)	
Inspection of cyclone, ESP	--	Visual	Weekly	
Natural gas use	Ccf and/or MMBtu	Natural gas meter (supplier)	Daily, Monthly, 12-month rolling total (to calculate and document annual capacity factor)	

L. Parameter Monitors [A-283-70-A-I (December 14, 2005); 06-096 CMR 121; 40 CFR §70.6; and 06-096 CMR 140, BPT]

1. ecomaine shall monitor and record parameters for MWC A and MWC B and their associated air pollution control equipment as indicated in the following table whenever the equipment is operating.

Parameter	Units of Measure	Monitoring Tool/Method	Frequency	
			Monitor	Record
MWC A and MWC B (*each*)				
Powdered activated carbon injection feed rate	lb/hr	Screw feeder speed	Continuously*	Hourly and 8-hour block
Urea injection system use	Dates operated	Manual record	As operated	
Urea usage	Gallons	Flow meter	Daily, monthly, and annually	
Primary voltage	Volts or kV	Volt meter	Continuously*	Daily
Secondary voltage	Volts or kV	Volt meter		
Primary current	Amps	Amp meter		
Secondary current	Amps	Amp meter		
ESP inlet gas temperature	°F	Thermocouple		Every 4 hours

* For the purpose of this license, "continuously" is defined as a minimum of two points in a one-hour period.

2. All signal conversion elements associated with steam or feedwater measurements shall be calibrated according to the manufacturer's instructions before each dioxin/furan performance test, such that calibration is conducted at least once per year. [40 CFR Part 60, Subpart Eb, §60.58b (i)(6)(iv) as referenced by 06-096 CMR 121]

M. Operator Training and Certification

In accordance with the requirements of 06-096 CMR 121 and 40 CFR Part 60, Subpart Cb, the operator training and certification requirements of 40 CFR Subpart Eb apply to all facilities with large municipal waste combustor units such as MWC A and MWC B. Thus, according to §60.54b of Subpart Eb, the following requirements are applicable to this facility. ecomaine shall comply with the following and maintain records thereof.

1. Each chief facility operator and shift supervisor shall obtain and maintain a current operator certification from either the American Society of Mechanical Engineers [QRO-1-1994]* or an equivalent, State-approved certification program.

* The QRO Certification Program is based on the American Society of Mechanical Engineers (ASME) QRO-1 Standard for the Qualification and Certification of Resource Recovery Facility Operators.

2. ecomaine shall not operate the facility at any time unless either a fully certified chief facility operator or a fully certified shift supervisor is on duty and at the facility.

3. If both the certified chief facility operator and the certified shift supervisor are unavailable, a provisionally certified control room operator on-site at the MWC unit may fulfill the certified operator requirement. Depending on the length of time that a certified chief facility operator and certified shift supervisor are away, ecomaine must comply with differing requirements. For the durations specified in the table below when the certified chief facility operator and certified shift supervisor are both off-site **and** no other certified operator is on-site, ecomaine shall comply with the corresponding requirement(s), as specified. In each case, the provisionally certified control room operator may perform the duties of the certified chief facility operator or certified shift supervisor.

Duration	**Then…**
12 hours or less	The provisionally certified control room operator may perform the duties of the certified chief facility operator or certified shift supervisor. No additional requirements are applicable.
more than 12 hours but not more than two weeks	The provisionally certified control room operator may fulfill the certified operator requirement with no required notice to or approval from the Department. **However**, ecomaine must record the period(s) when the certified chief facility operator and certified shift supervisor are off-site and include that information in the annual report.
more than two weeks	The provisionally certified control room operator may fulfill the certified operator requirement with no required approval from the Department. **However**, ecomaine must fulfill the following requirements: (1) Notify the Department in writing, stating what caused the absence and what actions are being taken by ecomaine to ensure that a certified chief facility operator or certified shift supervisor is on-site as expeditiously as practicable. (2) Submit a status report and corrective action summary to the Department every four weeks following the initial notification. If the Department provides notice that the status report or corrective action summary is disapproved, the MWC unit may continue operation for 90 days, but then must cease operation. If corrective actions are taken in the 90-day period such that the Department withdraws the disapproval, the MWC unit may continue operation.

4. A provisionally certified operator who is newly promoted or recently transferred to a shift supervisor position or a chief facility operator position at the facility may perform the duties of the certified chief facility operator or certified shift supervisor without notice to or approval by the Department for up to six months before taking the ASME QRO certification exam.

5. ecomaine shall develop and update at least yearly a site-specific operating manual that shall, at a minimum, address the following elements of MWC unit operation:
   a. A summary of the applicable air emission license standards;
   b. A description of basic combustion theory applicable to a MWC unit;
   c. Procedures for receiving, handling, and feeding municipal solid waste;
   d. MWC unit startup, shutdown, and malfunction procedures;
   e. Procedures for maintaining proper combustion air supply levels;
   f. Procedures for operating the MWC unit within air emission license standards;
   g. Procedures for responding to periodic upset or off-specification conditions;
   h. Procedures for minimizing particulate matter carryover;
   i. Procedures for handling ash;
   j. Procedures for monitoring MWC unit emissions; and
   k. Reporting and recordkeeping procedures.

6. ecomaine shall continue their training program which includes review of the operating manual with each person who has responsibilities affecting the operation of the unit, including but not limited to chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers, by the date prior to the day the person assumes such responsibilities and then annually thereafter.

7. The operating manual shall be kept in a readily accessible location for all persons required to undergo training. The operating manual and records of training shall be available for inspection by the EPA or its delegated enforcement agency upon request.

N. Recordkeeping [40 CFR Part 60, Subpart Eb, §60.59b, as referenced by 40 CFR Part 60, Subpart Cb and 06-096 CMR 121]

ecomaine shall maintain records of the following information for a period of at least six years. These records shall be readily available for submittal to the Department or review on site by an inspector.

1. The calendar date of each record.

Emissions and Parameters Data [40 CFR §60.59b (d)]

2. The emission concentrations and parameters using continuous monitoring systems specified in this license and as follows:
   a. All six-minute average opacity values from the COMS;
   b. All one-hour average SO_2, NO_x, and CO emission concentrations (ppm) from the CEMS;
   c. All MSW unit load measurements (steam flow);
   d. All PM control device inlet temperatures (ESP temperature).

3. The average concentrations and percent reductions, as applicable, as specified in the following paragraphs shall be computed, recorded, and available for submittal to the Department or for review on-site by an inspector:
   a. All 24-hour daily geometric average SO_2 emission concentrations and all 24-hour daily geometric average percent reductions in SO_2 emissions;
   b. All 24-hour daily arithmetic average NO_x emission concentrations;
   c. All 4-hour block average CO emission concentrations;
   d. All 4-hour block arithmetic average MWC unit load levels and ESP inlet temperatures.

4. Identification of the calendar dates and times (hours) for which valid hourly data as required have not been obtained, or required continuous automated sampling systems were not operated, including reasons for not obtaining the data and a description of corrective actions taken, for the following:
   a. SO_2 emissions data;
   b. NO_x emissions data;
   c. CO emissions data;
   d. MWC unit load data;
   e. ESP inlet temperature data.

5. Identification of each occurrence that SO_2 emissions data, NO_x emissions data, or operational data (*i.e.*, CO emissions, unit load, and ESP inlet temperature) have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.

6. The results of daily drift tests and quarterly accuracy determinations for SO_2, NO_x, and CO CEMS.

7. Identification of the calendar dates when any emission concentrations, percent reductions, opacities, or operating parameters were above the applicable limits, with reasons for such exceedances and descriptions of corrective actions taken.

Powdered Activated Carbon Injection System [40 CFR §60.59b (d)]
For the activated carbon systems, the following records shall be maintained:

8. The average carbon mass feed rate (lb/hr) determined during annual dioxin/furan performance tests and during annual mercury performance tests, with supporting calculations.

9. The average carbon mass feed rate (lb/hr) determined on an eight-hour block average basis during operation, with supporting calculations.

10. The total carbon usage for each calendar quarter, with supporting calculations.

11. Carbon injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon feed rate (e.g., screw feeder speed).

12. Identification of the calendar dates when the recorded average carbon mass feed rates were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions, with reasons for such feed rates and a description of corrective actions taken.

13. Identification of the calendar dates when the recorded carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate were below the level(s) determined during the performance tests, with reasons for such occurrences and a description of corrective action taken.

O. Ancillary Equipment: Ash Handling System

The ash handling system consists of quench tanks, ash conveyors, conditioners, and the load-out area utilized to collect ash from the combustion process (both bottom ash and fly ash) and prepare it for disposal. All fly ash conveyors are enclosed. Bottom ash and fly ash are each conditioned with water to render the product dustless prior to discharge onto open conveyors and into open containers. All ash from the MWCs shall be transported in covered containers so as to prevent fugitive emissions.

1. New Source Performance Standards (NSPS)

   Visible emissions from the Ash Handling System are regulated by the NSPS requirements of 40 CFR Part 60, Subpart Cb, *Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors that are Constructed On or Before September 20, 1994.*

2. Emission Limits and Streamlining

   ecomaine accepts streamlining of fugitive ash visible emissions requirements. Regulations 40 CFR Part 60, Subpart Cb; 06-096 CMR 101; and 06-096 CMR 121 contain visible emissions limits. The Subpart Cb and 06-096 CMR 121 visible emission limit is more stringent; therefore, only this limit shall be required by this license.

Applicable Standard	Origin and Authority	Licensed Limit
≤ 5% of observation period (i.e., nine minutes per three-hour period), determined per EPA Method 22	**40 CFR Part 60, Subpart Cb, §60.36b** and **06-096 CMR 121 (5)(A)(10)**	no visible emissions for more than 5% of the observation period (i.e., nine minutes in any three-hour period)
≤ 20%, except no more than five minutes in any one-hour period	06-096 CMR 101(2)(B)(4)	

Fugitive ash visible emission limitations do not cover visible emissions discharged inside buildings or enclosures of ash conveying systems or visible emissions discharged to the atmosphere from buildings or enclosures of ash

conveying systems; and do not apply during maintenance and repair of ash conveying systems. [06-096 CMR 121]

3. Emission Limit Compliance Methods

Compliance with the visible emission limit for the Ash Handling System shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Pollutant	Compliance Method	Frequency
Visible Emissions	EPA Reference Method 22 in 40 CFR Part 60, Appendix A	Annually

The minimum observation time shall be a series of three one-hour observations. The observation period shall include times when the facility is transferring ash from the MWCs to the area where ash is stored or loaded into containers or trucks. The average duration of visible emissions per hour shall be calculated from the three one-hour observations. The average shall be used to determine compliance with the fugitive ash limit. [06-096 CMR 121]

Ash from each MWC and all ash and non-combustible materials culled from the ash handling system shall be sufficiently conditioned with water to render it dust-free, or shall be stored in covered containers or in a leak tight enclosure so as to prevent fugitive emissions. [06-096 CMR 140, BPT]

P. Ancillary Equipment: Lime Silo and Carbon Silo

Lime is delivered by truck to ecomaine for use in the spray dryer absorber scrubber emissions control systems. A high pressure blower on the truck conveys lime through a hose to the upper level of a vertical lime storage silo. A bin vent fabric filter at the top of the silo separates lime dust from the air used to convey it. Emissions are estimated to be less than 1 ton/year from the fabric filter.

ecomaine also uses a silo equipped with a vent filter for the storage of carbon used in the carbon injection emissions control units.

1. Emission Limits and Streamlining

ecomaine accepts streamlining of opacity requirements applicable to the silos, as identified in the following table. Therefore, only the most stringent BPT visible emissions limit for the Lime Silo Vent Filter and Carbon Silo Vent Filter is included in this license.

Applicable Standard	Origin and Authority	Licensed Limit
10% opacity, on a six-minute block average basis	**A-283-71-J-M (October 10, 2000), BPT**	10% opacity, on a six-minute block average basis
10% opacity, on a six-minute block average basis, except for one six-minute average in any one-hour period	06-096 CMR 101 (2)(B)(3)(c)	

2. Monitoring and Operational Practices

ecomaine shall maintain and operate a fabric filter to control emissions during lime silo filling operations and a fabric filter to control emissions during carbon silo filling, and shall not conduct filling operations without the proper use of the respective fabric filter for each silo. ecomaine shall maintain monthly records of the quantity of lime and carbon loaded to its silo and of maintenance conducted on each fabric filter.

Q. Emergency Generator

ecomaine operates an Emergency Generator manufactured by Cummins Engine Company, Inc., model number KTTA19G2. The Emergency Generator, manufactured in 1988, is rated at 5.25 MMBtu/hour and fires distillate fuel.

1. New Source Performance Standards (NSPS)

Due to the date of manufacture of the Emergency Generator, it is not subject to federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, which is applicable to units ordered after July 11, 2005, and manufactured after April 1, 2006.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is applicable to ecomaine's Emergency Generator. The unit is considered an existing, emergency stationary reciprocating internal combustion engine (RICE) at an area HAP source and is not subject to NSPS regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt this unit from the federal requirements.

a. Compliance with Emergency Definition

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

(1) The unit is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Because ecomaine normally runs on its own power production, shutdowns of the turbine for maintenance and/or safety reasons require the use of the Emergency Generator during the transition from self-generation to grid-supplied electricity. Such occurrences are considered emergency situations and not in conflict with this definition of *emergency stationary RICE.*

There is no time limit on the use of emergency stationary RICE for emergencies.

(2) Paragraph (1) above notwithstanding, the unit may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; or ecomaine's insurance carrier. ecomaine may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if ecomaine maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(3) Paragraphs (1) and (2) above notwithstanding, the Emergency Generator may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, as provided in paragraph (2) above.

The Emergency Generator shall be limited to the usage outlined in 40 CFR §63.6640(f) and therefore may be classified as an existing emergency stationary RICE as defined in 40 CFR Part 63, Subpart ZZZZ. Failure to comply with all of the applicable requirements listed in 40 CFR §63.6640(f) may cause this engine to not be considered an emergency engine and therefore subject to all requirements applicable to a non-emergency engine.

b. 40 CFR Part 63, Subpart ZZZZ Requirements

(1) Operation and Maintenance Requirements

For the Emergency Generator, ecomaine shall comply with the following requirements [40 CFR §63.6603(a) and Table 2(d)]:

a) Change oil and filter every 500 hours of operation or annually, whichever comes first;
b) Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and
c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The unit shall be operated and maintained according to the manufacturer's emission-related written instructions, or ecomaine shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

(2) Optional Oil Analysis Program
ecomaine has the option of utilizing an oil analysis program which complies with the requirements of 40 CFR §63.6625(i) in order to extend the specified oil change requirement. If this option is used, ecomaine shall keep records of the parameters that are analyzed as part of the program, the results of each analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR §63.6625(i)]

(3) Non-Resettable Hour Meter Requirement
A non-resettable hour meter shall be installed and operated on the Emergency Generator. [40 CFR §63.6625(f)]

(4) Startup Idle and Startup Time Minimization Requirements
During periods of startup of the Emergency Generator, the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR §63.6625(h) and 40 CFR Part 63, Subpart ZZZZ Table 2d]

(5) Annual Time Limit For Maintenance and Testing
The Emergency Generator shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. [40 CFR §63.6640(f)]

(6) Recordkeeping Requirements
ecomaine shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded based on the non-resettable hour meter. Documentation shall include the number of hours of emergency operation, including what classified the

operation as emergency, and the number of hours of operation for non-emergency purposes. [40 CFR §63.6655(e) and (f)]

(7) If ecomaine operates or is contractually obligated to have this emergency generator available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in 40 CFR §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

[40 CFR §63.6650(h)]

3. BACT/BPT Emission Limits

The BACT/BPT emission limits for the Emergency Generator are based on the following:

Pollutant	Emission Factor	Source of Emission Factor
PM, PM_{10}	- 0.12 lb/MMBtu	06-096 CMR 103
SO_2	- 0.0015 lb/MMBtu	combustion of distillate fuel with a sulfur content not to exceed 15 ppm (0.0015% by weight)
NO_x	- 3.2 lb/MMBtu	AP-42, Table 3.4-1 (10/96)
CO	- 0.85 lb/MMBtu	
VOC	- 0.09 lb/MMBtu	
Visible Emissions	N.A.	06-096 CMR 101, Section 2(B)(1)(d)

The BACT/BPT emission limits for the Emergency Generator are the following:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator 5.25 MMBtu/hr, distillate fuel	0.63	0.63	0.008	16.8	4.46	0.47

Visible emissions from the Emergency Generator shall not exceed 20% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period.

4. Emission Limit Compliance Methods

Compliance with the emission limits associated with the Emergency Generator shall be demonstrated in accordance with the appropriate test methods upon request of the Department.

5. Periodic Monitoring [06-096 CMR 140, BPT]

For the Emergency Generator, ecomaine shall periodically monitor and record the information indicated in the following table.

Information	Units of Measure	Monitoring Tool/Method	Frequency
Fuel oil sulfur content	Percent, by weight	Fuel receipts from supplier	As fuel is purchased
Operating time	Hours	Hour Meter	Recorded monthly and totaled at the end of every calendar year
Reason for operation	N/A	Logbook or similar documentation	As it occurs

R. Parts Washer

The Parts Washer at ecomaine is a cold cleaning machine using a solvent with less than 5% VOC content by weight; thus, the Parts Washer is exempt from the requirements of *Solvent Degreasers,* 06-096 CMR 130 (as amended). [06-096 CMR 130 (1)(B)(3)]

S. Facility Annual Emissions

1. Total Annual Emissions

ecomaine is licensed for the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on the short term (lb/hr) limits for the MWC units and operations of 8760 hours/year, and the Emergency Generator operating 100 hours/year.

Total Licensed Annual Emissions for the Facility
Tons/Year (TPY)
(used to calculate the annual license fee)

Unit	PM	PM_{10}	SO_2	NO_x	CO	VOC
MWC A and B, combined total	30.0	30.0	96.8	431.2	145.8	13.1
Emergency Generator	0.03	0.03	Negligible	0.8	0.2	0.02
Total TPY	**30.0**	**30.0**	**96.8**	**432.0**	**146.0**	**13.1**

Pollutant:	Single HAP	Total HAP
Tons/year:	9.9	24.9

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans,* 40 CFR Part 52, Subpart A, §52.21 *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO_2e).

Based on the facility's fuel use limits; the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98; and the global warming potentials contained in 40 CFR Part 98; ecomaine is below the major source threshold of 100,000 tons of CO_2e per year.

IV. AMBIENT AIR QUALITY ANALYSIS

ecomaine previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards (see license A-283-70-A-I, issued December 14, 2005). An additional ambient air quality analysis is not required for this Part 70 License.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that emissions from this source:

- will receive Best Practical Treatment;
- will not violate applicable emissions standards; and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants the Part 70 License A-283-70-F-R/A pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the standard and specific conditions below.

All federally enforceable and State-only enforceable conditions in existing air licenses previously issued to ecomaine pursuant to the Department's preconstruction permitting requirements in 06-096 CMR 108 or 115 have been incorporated into this Part 70 license, except for such conditions that the Department has determined are obsolete, extraneous, or otherwise environmentally insignificant, as explained in the findings of fact accompanying this license. As such, the conditions in this license supersede all previously issued air license conditions.

Federally enforceable conditions in this Part 70 license must be changed pursuant to the applicable requirements in 06-096 CMR 115 for making such changes and pursuant to the applicable requirements in 06-096 CMR 140.

For each standard and specific condition which is state enforceable only, state-only enforceability is designated with the following statement: Enforceable by State-only.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD STATEMENTS

(1) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 140]

(2) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 140]

(3) All terms and conditions are enforceable by EPA and citizens under the Clean Air Act (CAA) unless specifically designated as state enforceable. [06-096 CMR 140]

(4) ecomaine may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 140]

(5) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 140]

(6) Compliance with the conditions of this Part 70 license shall be deemed compliance with any Applicable requirement as of the date of license issuance and is deemed a permit shield, provided that:

A. Such Applicable and state requirements are included and are specifically identified in the Part 70 license, except where the Part 70 license term or condition is specifically identified as not having a permit shield; or

B. The Department, in acting on the Part 70 license application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 license includes the determination or a concise summary, thereof.

Nothing in this section or any Part 70 license shall alter or affect the provisions of Section 303 of the U.S. Clean Air Act (CAA) (emergency orders), including the authority of EPA under Section 303; the liability of an owner or operator of a source for any violation of Applicable requirements prior to or at the time of permit issuance; or the ability of EPA to obtain information from a source pursuant to Section 114 of the CAA.

The following requirements have been specifically identified as not applicable based upon information submitted by ecomaine in an application dated December 30, 2009.

Source	Citation	Description	Basis for Determination
Petroleum Tanks	06-096 CMR 111	Petroleum Liquid Storage Vapor Control	All petroleum storage tanks at the facility are less than 39,000 gallons in volume.

Source	Citation	Description	Basis for Determination
MWC A and MWC B	06-096 CMR 134	Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds (VOC RACT)	VOC source is combustion source and exempt per 06-096 CMR134 (1)(C)(4).
MWC A and MWC B	06-096 CMR 145	NO_x Control Program	Each of the MWCs are below the applicability threshold input capacity of 250 MMBtu/hour
MWC A and MWC B	40 CFR Part 60, Subpart E	Standards of Performance for Incinerators	The units are subject to 40 CFR Part 60, Subpart Cb and therefore not subject to this subpart. [40 CFR §60.32b (n)]
Facility	40 CFR Part 61	National Emission Standards for Hazardous Air Pollutants	There are no applicable requirements under Part.
MWC A and MWC B	40 CFR Part 63	National Emission Standards for Hazardous Air Pollutants for Source Categories	There are no applicable requirements under Part.
Storage Tanks	40 CFR Part 68	Accidental Release Prevention	Chemicals stored on-site are stored at quantities less than threshold quantities.
Facility	40 CFR Parts 72-78	Federal Acid Rain Provisions	Facility is not subject to the provisions and does not choose to 'opt-in' at this time.

[06-096 CMR 140]

(7) The Part 70 license shall be reopened for cause by the Department or EPA prior to the expiration of the Part 70 license, if:

A. Additional Applicable requirements under the CAA become applicable to a Part 70 major source with a remaining Part 70 license term of three or more years. However, no opening is required if the effective date of the requirement is later than the date on which the Part 70 license is due to expire, unless the original Part 70 license or any of its terms and conditions have been extended pursuant to 06-096 CMR 140;

B. Additional requirements (including excess emissions requirements) become applicable to a Title IV source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the Part 70 license;

C. The Department or EPA determines that the Part 70 license contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Part 70 license; or

D. The Department or EPA determines that the Part 70 license must be revised or revoked to assure compliance with the Applicable requirements.

ecomaine shall furnish to the Department within a reasonable time any information that the Department may request in writing to determine compliance with the Part 70 license or to determine whether cause exists for modifying, revoking and reissuing, or terminating the Part 70 license. [06-096 CMR 140]

(8) No license revision or amendment shall be required under any approved economic incentives, marketable licenses, emissions trading, and other similar programs or processes for changes that are provided for in the Part 70 license. [06-096 CMR 140]

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions and this license (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in 06-096 CMR 140.

(3) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 140] Enforceable by State-only

(4) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to 38 M.R.S.A. §353-A.

(5) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 140]
Enforceable by State-only

(6) The licensee shall retain records of all required monitoring data and support information for a period of at least six (6) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original records for continuous monitoring instrumentation, and copies of all reports required by the

Part 70 license. The records shall be submitted to the Department upon written request or in accordance with other provisions of this license. [06-096 CMR 140]

(7) The licensee shall comply with all terms and conditions of the air emission license. The submission of notice of intent to reopen for cause by the Department, the filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a Part 70 license or amendment shall not stay any condition of the Part 70 license. [06-096 CMR 140]

(8) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. Perform stack testing under circumstances representative of the facility's normal process and operating conditions:

1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA if visible emissions, equipment operating parameters, staff inspection, air monitoring, or other cause indicates to the Department that equipment may be operating out of compliance with emission standards or license conditions;

2. To demonstrate compliance with the applicable emission standards; or

3. Pursuant to any other requirement of this license to perform stack testing.

B. Install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. Submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 140] Enforceable by State-only

(9) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicates emissions in excess of the applicable standards, then:

A. Within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 140] Enforceable by State-only

(10) The licensee shall maintain records of all deviations from license requirements. Such deviations shall include but are not limited to malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emission unit itself that is not consistent with the terms and conditions of the air emission license.

A. The licensee shall notify the Commissioner within 48 hours of a violation of any emission standard and/or a malfunction or breakdown in any component part that causes a violation of any emission standard, and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation;

B. The licensee shall submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component part causes a violation of any emission standard, together with any exemption requests.

Pursuant to 38 M.R.S.A. § 349(9), the Commissioner may exempt from civil penalty an air emission in excess of license limitations if the emission occurs during start-up or shutdown or results exclusively from an unavoidable malfunction entirely beyond the control of the licensee and the licensee has taken all reasonable steps to minimize or prevent any emission and takes corrective action as soon as possible. There may be no exemption if the malfunction is caused, entirely or in part, by poor maintenance, careless operation, poor design, or any other reasonably preventable condition or preventable equipment breakdown. The burden of proof is on the licensee seeking the exemption under this subsection.

C. All other deviations shall be reported to the Department in the facility's semiannual report.

[06-096 CMR 140]

(11) Upon the written request of the Department, the licensee shall establish and maintain such records; make such reports; install, use, and maintain such monitoring equipment; sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Department shall prescribe); and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 140]

(12) The licensee shall submit semiannual reports of any required periodic monitoring. All instances of deviations from Part 70 license requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. [06-096 CMR 140]

(13) The licensee shall submit a compliance certification to the Department and EPA at least annually, or more frequently if specified in the applicable requirement or by the Department. The compliance certification shall include the following:

A. The identification of each term or condition of the Part 70 license that is the basis of the certification;
B. The compliance status;
C. Whether compliance was continuous or intermittent;
D. The method(s) used for determining the compliance status of the source, currently and over the reporting period; and
E. Such other facts as the Department may require to determine the compliance status of the source.

[06-096 CMR 140]

SPECIFIC CONDITIONS

(14) **MWC Units A and B Limits**

A. Allowable Fuels/Waste

1. Each MWC is licensed to fire municipal solid waste (MSW) and supplemental wastes including tires; non-veterinary, non-agricultural, small, dead animal remains; non-recoverable oily wastes; waste wood and wood chips. ecomaine is licensed to fire waste types 0, 1, 2, 3, and 6, as defined in 06-096 CMR 100. Auxiliary fuel use shall be limited to natural gas. [A-283-70-A-I (December 14, 2005), BPT]

2. The following are unacceptable wastes and shall not be combusted in the MWCs: waste classified as Resource Conservation and Recovery Act (RCRA) hazardous waste, low level radioactive waste, and red bag medical waste. [A-283-70-A-I (December 14, 2005), BPT]

3. ecomaine is licensed to dispose of non-veterinary, non-agricultural, small, dead animal remains in MWCs A and B.

a. The remains must be delivered to ecomaine in accordance with ecomaine's WTE Operations Manual section for "Unusual Waste Handling Procedure."

b. ecomaine shall maintain a log documenting the time at which the non-veterinary, non-agricultural, dead animal remains are introduced into either MWC A or B and the estimated quantity of non-veterinary, non-agricultural, dead animal remains disposed of in either unit. [A-283-71-G-M (March 27, 1997), BPT]

B. Natural Gas

ecomaine shall limit natural gas use in MWC A A-Boiler and MWC B B-Boiler during a calendar year to a combined annual capacity factor of 10% or less. [40 CFR Part 60, Subpart Db and A-283-71-I-A (February 15, 1999)]

ecomaine shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [40 CFR Part 60, Subpart Db, §60.49b (d)]

C. Emission Limits

Emissions from each of the units MWC A and MWC B shall not exceed the following limits:

Pollutant	Licensed Emission Limits for EACH Unit	Origin and Authority
PM	24 mg/dscm @ 7% O_2, 3-run average basis	A-283-71-J-M (October 10, 2000), BPT
	3.43 lb/hr	A-283-70-A-I (December 14, 2005), BPT
PM_{10}	3.43 lb/hr	A-283-70-A-I (December 14, 2005), BPT
SO_2	29 ppmdv @ 7% O_2 or 80% reduction by weight or volume[1]; 24-hr daily geometric mean[2]	40 CFR Part 60, Subpart Cb §60.33b(b)(3)(i) and 06-096 CMR 121 (5)(A)(5) and A-283-71-J-M (October 10, 2000), BPT
	11.04 lb/hr, 24-hour basis	A-283-70-A-I (December 14, 2005), BPT
NO_x	180 ppmdv @7% O_2, 24-hour daily arithmetic average[2]	A-283-72-C-M (February 3, 1995), BPT
	49.22 lb/hr, 24-hour basis	A-283-70-A-I (December 14, 2005), BPT
CO	100 ppmdv @ 7% O_2, 4-hr block average[2]	40 CFR Part 60, Subpart Cb §60.34b(a) and Table 3; and 06-096 CMR 121 (5)(A)(9) and A-283-71-J-M (October 10, 2000), BPT
	16.65 lb/hr, 4-hour average basis	A-283-70-A-I (December 14, 2005), BPT

Pollutant	Licensed Emission Limits for EACH Unit	Origin and Authority
VOC	0.027 lb/MMBtu	A-283-71-J-M (October 10, 2000), BPT
	1.5 lb/hr	A-283-70-A-I (December 14, 2005), BPT
Visible Emissions	10% opacity on a six-minute block average basis	A-283-71-A-N (February 12, 1986), BACT and 06-096 CMR 121 (5)(A)(2) and 40 CFR Part 60, Subpart Cb, §60.33b(a)(1)(iii)
Hydrogen Chloride (HCl)	29 ppmdv @ 7% O_2 or 95% reduction by weight, whichever is less stringent; 3-run average basis	A-283-71-J-M (October 10, 2000), BPT and 40 CFR Part 60, Subpart Cb §60.33b(b)(3)(ii) and 06-096 CMR 121(5)(A)(6)
Dioxins/Furans (PCDD/PCDF) total mass basis	25 ng/dscm @ 7% O_2, 3-run average basis, min. run duration of 4 hours	06-096 CMR 121(5)(A)(7)
Cadmium (Cd)	35 µg/dscm (0.035 mg/dscm) @ 7% O_2, 3-run average basis	40 CFR Part 60, Subpart Cb §60.33b (a)(2)(i) and 06-096 CMR 121(5)(A)(3)
Mercury (Hg)	28 µg/dscm (0.028 mg/dscm) @ 7% O_2, 3-run average basis	06-096 CMR 121(5)(A)(4)
	25 lb/yr or 90% reduction by weight	38 MRSA, §585-B §§5
Lead (Pb)	400 µg/dscm (0.40 mg/dscm) @ 7% O_2, 3-run average basis	40 CFR Part 60, Subpart Cb §60.33b(a)(4) and 06-096 CMR 121(5)(A)(3) and A-283-71-J-M (October 10, 2000), BPT
Ammonia	10 ppmdv @ 7% O_2, 3-run average basis	A-283-71-J-M (October 10, 2000), BPT

[1] ecomaine shall limit the use of the 80% reduction compliance demonstration method to no more than ten days per year, on a 12-month rolling total basis. [A-283-70-A-I (December 14, 2005), BPT]

[2] Emission limits apply at all times except for ppmvd limits for SO_2, NO_x, and CO during startup and shutdown. [06-096 CMR 121 and 140, BPT]

D. Mercury Limits [A-283-77-3-M (February 4, 2010)]

ecomaine shall comply with the mercury emission requirements set forth in 38 MRSA, §585-B sub-§5 (25 lb/year limit or 90% reduction by weight).

Compliance with the statutory mercury emission limitations shall be based on calculations using the annual EPA Method 29 mercury stack test results. The outlet stack test results, the average flow rate of the flue gas during the stack test, conversion constants, and MWC operating hours shall be used to determine lb/year emissions. Inlet and outlet stack test results shall be used to determine removal efficiency. Prior approval from the Department is required if different compliance demonstration methods are to be used.

E. Arsenic (As), Nickel (Ni), Chromium (Cr), and Beryllium (Be)

ecomaine shall conduct emissions testing at least once every three calendar years for arsenic (As), nickel (Ni), chromium (Cr), and beryllium (Be), in accordance with 40 CFR Part 60, Appendix A, Method 29 or an alternate method approved by the Department. The next testing is to be completed before the end of calendar year 2017. [06-096 CMR 121 (5)(D)(5)(a)]

ecomaine shall include as part of the application for renewal of this Part 70 license a proposed numerical emission limit for arsenic (As), nickel (Ni), chromium (Cr), and beryllium (Be), either individually or combined, based on historical test data and additional data from testing conducted subsequent to issuance of this license. [06-096 CMR 140, BPT]

F. Compliance Methods

Compliance with the emission limits associated with MWC A and MWC B shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Although Standard Condition (8) requires submission of "... a written report to the Department within thirty (30) days from the date of test completion", a different (longer) timeframe is allowed under 06-096 CMR 121 and in applicable federal NSPS regulations. As specified in 06-096 CMR 121 and 40 CFR Part 60, Subpart Eb, a written report shall be submitted within sixty (60) days from the date of test completion. The test completion date shall be considered the date upon which sampling of stack gases associated with the specific emissions test is concluded.

Pollutant	Units of Limit	Compliance Method	Frequency
PM	mg/dscm @ 7% O_2 lb/hr	40 CFR Part 60, Appendix A, Method 5	Annually[1]
PM_{10}	lb/hr	40 CFR Part 60, Appendix A, Method 5 or Method 201 or 201A	As requested
SO_2	ppmdv @ 7% O_2 (based on outlet concentration data) or 80% reduction (based on inlet and outlet concentration data)	SO_2 CEMS; 24-hour block average basis, geometric mean; midnight to midnight	Continuously (in accordance with 40 CFR Part 60, App. B)
	lb/hr	40 CFR Part 60, App. A, Method 19 or 6C	As requested
NO_x	ppmdv @ 7% O_2	NO_x CEMS; 24-hour block average basis; midnight to midnight	Continuously (in accordance with 40 CFR Part 60, App. B)
	lb/hr	40 CFR Part 60, App. A, Method 7 or 7E	As requested

Pollutant	Units of Limit	Compliance Method	Frequency
CO	ppmdv @ 7% O_2	CO CEMS; four-hour block average basis	Continuously (in accordance with 40 CFR Part 60, App. B)
	lb/hr	40 CFR Part 60, App. A, Method 10	As requested
VOC	lb/MMBtu and lb/hr	40 CFR Part 60, Appendix A, Method 25 or 25A	As requested
Hydrogen Chloride (HCl)	ppmdv @ 7% O_2	40 CFR Part 60, Appendix A, Method 26 or 26A	Annually[1]
Dioxins/Furans (PCDD/PCDF) total mass basis	ng/dscm @ 7% O_2	40 CFR Part 60, Appendix A, Method 23	Annually[2]
Cadmium (Cd)	µg/dscm @ 7% O_2	40 CFR Part 60, Appendix A, Method 29	Annually[1]
Mercury (Hg)	µg/dscm @ 7% O_2 lb/year		
Lead (Pb)	µg/dscm @ 7% O_2		
Ammonia	ppmdv @ 7% O_2	40 CFR Part 60, Appendix A	
Visible Emissions[3]	% opacity of emissions	COMS on a six-minute block average basis; monitored continuously in accordance with 40 CFR Part 60, App. B	

[1] no less than nine and no more than 15 calendar months following the previous performance test; must complete five performance tests in each five-calendar-year year period [40 CFR §60.58b (g)(5)(i), as referenced by 06-096 CMR 121]

[2] An alternative test schedule for Dioxins/Furans may apply in accordance with 06-096 CMR 121(5)(D)(3), which references 40 CFR §60.58b(g)(5)(iii): Where all performance tests over a two-year period indicate that dioxin/furan emissions are less than or equal to 15 ng/dscm total mass at 7% O_2 for all affected units located within the facility, ecomaine may elect to conduct annual performance tests for one of the units per year. At a minimum, a performance test for dioxin/furan emissions shall be conducted on a calendar year basis (no less than nine calendar months and no more than 15 months following the previous performance test) for one of the two units at ecomaine. Each year, a different unit shall be tested. If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 15 ng/dscm total mass at 7% O_2, ecomaine may continue conducting a performance test on only one unit per calendar year. If any annual performance test indicates either a dioxin/furan emission level greater than 15 ng/dscm total mass at 7% O_2, performance tests shall thereafter be conducted annually on both units at the plant until and unless all annual performance tests for both units over a two-year period indicate a dioxin/furan emission level less than or equal to 15 ng/dscm total mass at 7% O_2. [40 CFR §60.38b(b)]

[3] ecomaine shall conduct a performance test for opacity on an annual basis (no later than 12 calendar months following the previous performance test) using EPA Reference Method 9, except as provided under 40 CFR Part 60, Subpart A (Section 60.11(e)). If electing to use the methods in Section 60.11(e), ecomaine shall use COMS opacity data collected during the annual performance test for particulate matter to demonstrate compliance with the opacity standards, and therefore Method 9 observations would not be required. [06-096 CMR 121 and A-283-70-A-I (December 14, 2005), BPT]

(15) Control Equipment

A. PM, PM_{10} Control: ecomaine shall control particulate matter (PM, PM_{10}) emissions from each MWC by the operation and maintenance of a scrubber spray dryer absorber system which includes a cyclone followed by an electrostatic precipitator (ESP). [A-283-71-A-N (February 12, 1986), BACT and 06-096 CMR 140; BPT]

The following shall apply to the inlet temperatures of flue gases for the ESPs associated with MWC A and MWC B. [40 CFR §60.53b(c), as referenced by 06-096 CMR 121]

1. *During Each PCDD/PCDF Performance Test*
During each PCDD/PCDF emissions performance test, ecomaine shall determine maximum demonstrated ESP inlet temperature, which is the highest four-hour arithmetic average flue gas temperature measured at the ESP inlet during four consecutive hours of the test demonstrating compliance with the applicable limits for each MWC.

2. *During Regular MWC Operation*
During regular operation of the MWCs, the temperature at the ESP inlet shall not exceed 17°C above the maximum demonstrated ESP inlet temperature, except as specified in the following paragraph.

During the annual dioxin/furan or mercury performance test, as applicable, and the two weeks preceding the test, no ESP inlet temperature limitations are applicable if the ESP inlet temperature limits are waived in writing by the Department for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state of the art for controlling facility emissions.

3. *During Periods of Natural Gas Firing Only*
When either MWC is firing only natural gas, ecomaine may request an exemption to the ESP inlet temperature requirement for the associated ESP. The date, time, duration, and reason for the firing of only natural gas shall be included in the exemption request. [06-096 CMR 140, BPT]

B. SO_2 Control: ecomaine shall control SO_2 emissions from each MWC by spray dryer absorption with lime slurry injection, followed by an electrostatic precipitator. [A-283-71-A-N (February 12, 1986), BACT and 06-096 CMR-140; BPT]

C. NO_x Control: ecomaine shall control NO_x emissions from each MWC by operating the SNCR control system. [A-283-70-A-I (December 14, 2005) and 06-096 CMR 140; BPT]

D. Hg and Dioxin/Furan Control: ecomaine shall control mercury and dioxin/furan emissions from each MWC by operating a powdered activated carbon injection system for each unit. [A-283-70-A-I (December 14, 2005) and 06-096 CMR 140; BPT]

The following shall apply to the carbon injection systems on MWC A and MWC B.

1. *During Each PCDD/PCDF and Hg Performance Test*
During each performance test conducted for PCDD/PCDF emissions and each performance test conducted for Hg emissions, ecomaine shall determine the average carbon mass feed rate, in pounds per hour, based on carbon injection system operating parameters such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed. If a dioxin/furan performance test is being performed on only one MWC at the facility, ecomaine may elect to apply the same estimated average carbon mass feed rate from the tested MWC for both MWC units at the facility. [40 CFR §60.58b (m)(1), as referenced by 06-096 CMR 121]

2. *During Carbon Injection System Operation*
During operation of a MWC, the associated carbon injection system's operating parameter(s) that are the primary indicator(s) of the carbon mass feed rate (e.g., screw feeder setting) shall be averaged over an 8-hour block period, and the 8-hour block average must equal or exceed the level(s) documented during the most recently completed performance test showing compliance with the dioxin/furan emission limits and the most recently completed performance test showing compliance with the mercury emission limits, with the following exception:

During the annual dioxin/furan or mercury performance test and the two weeks preceding the annual dioxin/furan or mercury performance test **and** with written permission from the Department, no limit is applicable for average mass carbon feed rate for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility

performance or advancing the state of the art for controlling facility emissions. [40 CFR §60.58b (m)(2), as referenced by 06-096 CMR 121]

3. *Carbon Usage Documentation per Calendar Quarter*
ecomaine shall estimate the total carbon usage of the plant (in pounds) for each calendar quarter by the following two independent methods:
   a. Document the weight of carbon delivered to the plant.
   b. Determine the sum of carbon use for both MWC A and MWC B using the average carbon mass feed rate in pounds per hour for each MWC based on the injection system operating parameters (such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed) and the total number of hours of operation during the calendar quarter for both MWCs.

   [40 CFR §60.58b (m)(3), as referenced by 06-096 CMR 121]

4. *Instantaneous Carbon Injection System Operational Indicator*
A carbon injection system operational indicator shall be used to provide additional verification of proper carbon injection system operation. The operational indicator shall provide an instantaneous visual and/or audible alarm to alert the operator of a potential interruption in the carbon feed that would not normally be indicated by direct monitoring of carbon mass feed rate (e.g., continuous weight loss feeder) or monitoring of the carbon system operating parameter(s) that are the indicator(s) of carbon mass feed rate (e.g., screw feeder speed). The carbon injection system operational indicator used to provide additional verification of carbon injection system operation, including basis for selecting the indicator and operator response to the indicator alarm, shall be included in ecomaine's site-specific operating manual. [40 CFR §60.58b (m)(4), as referenced by 06-096 CMR 121]

E. Records shall be maintained detailing all routine and non-routine maintenance on each cyclone, ESP, spray dryer, powdered activated carbon injection system, and SNCR equipment. ecomaine shall document the location, date, and nature of all pollution control equipment failures.
[A-283-70-A-I (December 14, 2005) and 06-096 CMR 140; BPT]

(16) Operating Specifications

A. MWC Outage Procedure [A-283-70-A-I (December 14, 2005), BPT]

1. During periods when neither boiler is in operation, doors to the tipping floor and bunker areas shall be closed so as to prevent odor emissions, unless the facility is receiving MSW. Alternatively, ecomaine may vent these areas via an induced draft fan to the stack.

2. During times of prolonged facility outage or maintenance, ecomaine shall follow procedures for waste bypass in order to prevent potential environmental impacts of waste storage, as described in ecomaine's waste receiving procedure manual. There shall be no outside storage of waste.

B. Startup, Shutdown, and Malfunction [40 CFR §60.58b(a), as referenced by 06-096 CMR 121, and A-283-70-A-I (December 14, 2005), BPT]

Emission standards for MWC A and MWC B apply at all times except during periods of startup, shutdown, and malfunction.

1. *MWC warm-up* for each MWC unit shall be defined as the period before startup commences, when only fossil fuel (natural gas) is being fired in the unit.

2. The *startup period* (for both cold and warm startup) for each MWC unit begins when MSW fed into the feed chute, and does not include any warm-up period when the unit is combusting natural gas with no MSW being fed to the combustor. The startup period ends when continuous burning begins.

3. *Continuous burning* is the continuous, semi-continuous, or batch feeding of MSW for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of MSW solely to provide thermal protection of the grate or hearth during the startup period when MSW is not being fed to the grate shall not be considered continuous burning.

4. *Emergency shutdown* of a MWC unit begins when MSW is no longer fed into the feed chute for that particular boiler and combustion flows to the primary and secondary air fans of that boiler are shut off.

5. Durations of Startup, Shutdown, or Malfunction Periods

   a. Durations of startup, shutdown, or malfunction periods are limited to three hours per occurrence, except as additionally provided for CO emissions in the following paragraph. During periods of startup, shutdown, or malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR 60.59b (d)(7).

   b. For the purpose of compliance with CO emission limits, if a loss of boiler water level control (e.g., boiler waterwall tube failure) or a loss of combustion air control (e.g., loss of combustion air fan, induced draft fan, combustion grate bar failure) is determined to be a malfunction, the duration of the malfunction period is limited to 15 hours per occurrence. During such periods of malfunction,

monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR §60.59b (d)(7).

6. *Routine shutdown* of a MWC unit begins when MSW is no longer fed into the feed chute for that particular boiler and combustion flow to the primary and secondary air fans of that boiler continues until all MSW is burned and has been discharged to the ash system.

C. Stack O_2 Levels During Warm-up and/or Startup and Shutdown

The stack O_2 levels during MWC warm-up and/or startup and during shutdown that exceed 14.0% may be replaced with a value of 14.0%. In such instances, ecomaine is licensed to recalculate the hourly ppmdv averages for SO_2, NO_x, and CO for compliance purposes.
[A-283-70-A-I (December 14, 2005), BPT]

D. Capacity

ecomaine shall ensure that neither boiler train is operated at a rate greater than 275 tons MSW/day and that the total facility is not operated at a rate greater than 550 tons MSW/day. [A-283-71-A-N (February 12, 1986)]

Compliance with the tons MSW/day limits shall be demonstrated and documented daily using steam flow data, a boiler efficiency of 77%, the enthalpy of steam, and a higher heating value (HHV) of the solid waste fuel of 5,311 Btu/lb. [06-096 CMR 140, BPT]

If ecomaine conducts testing in the future of fuel heating values, or if the Solid Waste Association of North America (SWANA) updates the average HHV of MSW based on more recent test data which is representative of ecomaine's fuel, the HHV may be adjusted to reflect the most recently established value. [06-096 CMR 140, BPT]

E. MWC Operating Load Level

The maximum demonstrated municipal waste combustor unit load shall be determined during each annual performance test, measured as steam flow or feed water flow, and shall not exceed the capacity limits (275 tons MSW/day per unit, 550 tons MSW/day for the facility). The maximum demonstrated municipal waste combustor unit load is the highest four-hour arithmetic average load achieved during four consecutive hours of the most recent emissions test during which compliance with the dioxin/furan emission limit was achieved. [06-096 CMR 121 and 140, BPT]

Over any four-hour block period, each MWC operating load level shall not exceed 110% of the maximum demonstrated MWC unit load level measured

as steam flow or feedwater flow. This restriction shall not apply to the two weeks prior to and during PCDD/PCDF testing, or may be waived in writing by the Department for purposes of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state of the art for controlling facility emissions. [06-096 CMR 121]

(17) Continuous Emission Monitoring System (CEMS and COMS)

A. ecomaine shall operate on each MWC unit the continuous emission monitoring systems as specified in the following table:

Continuous Monitor	Unit of Measurement	Origin and Authority
SO_2 CEMS (both before and after the spray dryer)	ppmdv	06-096 CMR 117
NO_x CEMS	ppmdv	06-096 CMR 117 and 06-096 CMR 138 (3)(G) (2)
CO CEMS	ppmdv	06-096 CMR 117 and 121
O_2 and/or CO_2 CEMS*	percent	
COMS	% opacity	

* at each location where SO_2, NO_x, or CO emissions are monitored

B. During a malfunction period consisting of the loss of boiler water level control or loss of combustion air control, a diluent cap of 14% for oxygen or 5% for carbon dioxide may be used in the emissions calculations for SO_2 and NO_x. [40 CFR §60.58b (b)(8), as referenced by 06-096 CMR 121]

C. At a minimum, valid CEMS hourly averages shall be obtained for 90% of the operating hours per calendar quarter and 95% of the operating days per calendar year that the affected facility is combusting MSW. All valid CEMS data shall be used in calculating average emission concentrations and percent reductions even if these minimum CEMS data requirements are not met. [40 CFR §60.58b (e), as referenced by 06-096 CMR 121]

D. The four-hour block, 24-hour daily arithmetic averages, and 24-hour daily geometric mean specified in this license shall be calculated from one-hour arithmetic averages expressed in parts per million by volume corrected to 7% oxygen (dry basis). The one-hour arithmetic averages shall be calculated using the data points generated by the CEMS. At least two data points shall be used to calculate each one-hour arithmetic average. [40 CFR §60.58b (h), as referenced by 06 096 CMR 121]

E. CEMS Recordkeeping [06-096 CMR 140] Enforceable by State-only

1. ecomaine shall maintain records documenting that all CEMS and COMS are continuously accurate, reliable, and operated in accordance with 06-096 CMR 117 (as amended), 40 CFR Part 51, Appendix P, and 40 CFR Part 60, Appendices B and F.

2. ecomaine shall maintain records of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each CEMS and COMS as required by 40 CFR Part 51 Appendix P.

3. ecomaine shall maintain records of other data indicative of compliance with the applicable emission standards for those periods when any required CEMS or COMS was not in operation or produced invalid data. In the event the Department does not concur with ecomaine's compliance determination, ecomaine shall, upon the Department's request, provide additional data and shall have the burden of demonstrating that the data is indicative of compliance with the applicable standard.

(18) Periodic Monitoring [A-283-70-A-I (December 14, 2005) and 06-096 CMR 140, BPT; 40 CFR §60.49b(d) for natural gas use]

ecomaine shall monitor and record values for MWC A and MWC B and their associated air pollution control equipment as indicated in the following table whenever the equipment is operating.

MWC A and MWC B (*each*)				
Value	**Units of Measure**	**Monitoring Tool/Method**	**Frequency**	
			Monitor	**Record**
MSW Charging Rates	Tons	Tipping Floor Records	Daily (calculated from weekly data) and Annually	
Steam Flow and/or Feedwater Flow	Pounds per hour	Flow Meter	Continuously*	Hourly and 4-hour block
Operating Time	Hours	Boiler Control System	Daily, monthly, and annually (calendar year basis)	
Inspection of Cyclone and ESP	--	Visual	Weekly	
Natural Gas Use	Ccf and/or MMBtu	Natural Gas Meter (supplier)	Daily, Monthly, 12-month rolling total (to calculate and document annual capacity factor)	

* For the purpose of this license, "continuously" is defined as a minimum of two points in a one-hour period. [A-283-70-E-A (March 10, 2008)]

(19) Parameter Monitoring

A. ecomaine shall monitor and record parameters for MWC A and MWC B and their associated air pollution control equipment as indicated in the following table whenever the equipment is operating. [A-283-70-A-I (December 14, 2005); 06-096 CMR 121; 40 CFR §70.6; and 06-096 CMR 140, BPT]

Parameter	Units of Measure	Monitoring Tool/Method	Frequency	
			Monitor	Record
MWC A and MWC B (*each*)				
Powdered activated carbon injection feed rate	lb/hr	Screw feeder speed	Continuously*	Hourly and 8-hour block
Urea injection system use	Dates operated	Manual record	As operated	
Urea usage	Gallons	Flow meter	Daily, monthly, and annually	
Primary voltage	Volts or kV	Volt meter	Continuously*	Daily
Secondary voltage	Volts or kV	Volt meter		
Primary current	Amps	Amp meter		
Secondary current	Amps	Amp meter		
ESP inlet gas temperature	°F	Thermocouple		Every 4 hours

* For the purpose of this license, "continuously" is defined as a minimum of two points in a one-hour period. [A-283-70-E-A (March 10, 2008)]

B. All signal conversion elements associated with steam or feedwater measurements shall be calibrated according to the manufacturer's instructions before each dioxin/furan performance test, such that calibration is conducted at least once per year. [40 CFR Part 60, Subpart Eb, §60.58b (i)(6)(iv) as referenced by 06 096 CMR 121]

(20) Parameter Monitor General Requirements [06-096 CMR 140 and CMR 117] Enforceable by State-only

A. Parameter monitors required by this license shall be installed, operated, maintained, and calibrated in accordance with manufacturer recommendations or as otherwise required by the Department.

B. Parameter monitors required by this license shall continuously monitor data at all times the associated emissions unit is in operation. "Continuously" with respect to the operation of parameter monitors required by this license means providing equally spaced data points with at least one valid data point in each successive 15-minute period. A minimum of three valid 15-minute periods constitute a valid hour.

C. Each parameter monitor must record accurate and reliable data. If the parameter monitor is recording accurate and reliable data less than 98% of the associated emissions unit operating time within any quarter of the calendar year, the Department may initiate enforcement action and may include in that enforcement action any period of time that the parameter monitor was not recording accurate and reliable data during that quarter unless ecomaine can demonstrate to the satisfaction of the Department that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions.

(21) Operator Training and Certification [40 CFR §60.54b of Subpart Eb]

ecomaine shall comply with the following operator training and certification requirements according to 40 CFR §60.54b of Subpart Eb and maintain records thereof:

A. Each chief facility operator and shift supervisor shall obtain and maintain a current operator certification from either the American Society of Mechanical Engineers [QRO-1-1994] or an equivalent State-approved certification program.

B. ecomaine shall not operate the facility at any time unless either a fully certified chief facility operator or a fully certified shift supervisor is on duty and at the facility.

C. If both the certified chief facility operator and certified shift supervisor are unavailable, a provisionally certified control room operator on-site at the municipal waste combustion unit may fulfill the certified operator requirement. Depending on the length of time that a certified chief facility operator and certified shift supervisor are away, ecomaine must comply with differing requirements. For the durations specified in the table below when the certified chief facility operator and certified shift supervisor are both off-site and no other certified operator is on-site, ecomaine shall comply with the corresponding requirement(s), as specified. In each case, the provisionally certified control room operator may perform the duties of the certified chief facility operator or certified shift supervisor.

Duration	Then...
12 hours or less	The provisionally certified control room operator may perform the duties of the certified chief facility operator or certified shift supervisor. No additional requirements are applicable.
more than 12 hours but not more than two weeks	The provisionally certified control room operator may fulfill the certified operator requirement with no required notice to or approval from the Department. **However**, ecomaine must record the period(s) when the certified chief facility operator and certified shift supervisor are off-site and include that information in the annual report.

Duration	Then…
more than two weeks	The provisionally certified control room operator may fulfill the certified operator requirement with no required approval from the Department. **However**, ecomaine must fulfill the following requirements: (1) Notify the Department in writing, stating what caused the absence and what actions are being taken by ecomaine to ensure that a certified chief facility operator or certified shift supervisor is on-site as expeditiously as practicable. (2) Submit a status report and corrective action summary to the Department every four weeks following the initial notification. If the Department provides notice that the status report or corrective action summary is disapproved, the MWC unit may continue operation for 90 days, but then must cease operation. If corrective actions are taken in the 90-day period such that the Department withdraws the disapproval, the MWC unit may continue operation.

D. A provisionally certified operator who is newly promoted or recently transferred to a shift supervisor position or a chief facility operator position at the municipal waste combustion unit may perform the duties of the certified chief facility operator or certified shift supervisor without notice to, or approval by, the Department for up to six months before taking the ASME QRO certification exam.

E. ecomaine shall develop and update at least yearly a site-specific operating manual that shall, at a minimum, address the following elements of MWC unit operation:
   1. A summary of the applicable air emission license standards;
   2. A description of basic combustion theory applicable to a MWC unit;
   3. Procedures for receiving, handling, and feeding municipal solid waste;
   4. MWC unit startup, shutdown, and malfunction procedures;
   5. Procedures for maintaining proper combustion air supply levels;
   6. Procedures for operating the MWC unit within air emission license standards;
   7. Procedures for responding to periodic upset or off-specification conditions;
   8. Procedures for minimizing particulate matter carryover;
   9. Procedures for handling ash;
   10. Procedures for monitoring MWC unit emissions; and
   11. Reporting and recordkeeping procedures.

F. ecomaine shall continue their training program which includes review of the operating manual with each person who has responsibilities affecting the operation of the unit, including but not limited to chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers, by the date prior to the day the person assumes such responsibilities and then annually thereafter.

G. The operating manual shall be kept in a readily accessible location for all persons required to undergo training. The operating manual and records of training shall be available for inspection by the EPA or its delegated enforcement agency upon request.

(22) Recordkeeping [40 CFR Part 60, Subpart Eb, §60.59b, as referenced by 40 CFR Part 60, Subpart Cb and 06-096 CMR 121]

ecomaine shall maintain records of the following information for a period of at least six years. These records shall be readily available for submittal to the Department or review on site by an inspector.

A. The calendar date of each record.

Emissions and Parameters Data

B. The emission concentrations and parameters using continuous monitoring systems specified in this license and as follows:
   1. All six-minute average opacity values from the COMS;
   2. All one-hour average SO_2, NO_x, and CO emission concentrations (ppm) from the CEMS;
   3. All MSW unit load measurements (steam flow);
   4. All PM control device inlet temperatures ESP temperature).

C. The average concentrations and percent reductions, as applicable, specified in the following paragraphs shall be computed, recorded, and available for submittal to the Department or review on-site by an inspector:
   1. All 24-hour daily geometric average SO_2 emission concentrations and all 24-hour daily geometric average percent reductions in SO_2 emissions;
   2. All 24-hour daily arithmetic average NO_x emission concentrations;
   3. All 4-hour block average CO emission concentrations;
   4. All 4-hour block arithmetic average MWC unit load levels; and
   5. All 4-hour block arithmetic average ESP inlet temperatures.

D. Identification of the calendar dates and times (hours) for which valid hourly data as required have not been obtained, or required continuous automated sampling systems were not operated, including reasons for not obtaining the data and a description of corrective actions taken, for the following:
   1. SO_2 emissions data;
   2. NO_x emissions data;
   3. CO emissions data;
   4. MWC unit load data;
   5. ESP inlet temperature data.

E. Identification of each occurrence that SO_2 emissions data, NO_x emissions data, or operational data (*i.e.*, CO emissions, unit load, and ESP inlet

temperature) have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.

F. The results of daily drift tests and quarterly accuracy determinations for SO_2, NO_x, and CO CEMS.

G. Identification of the calendar dates when any of the emission concentrations, percent reductions, opacities, or operating parameters were above the applicable limits, with reasons for such exceedances and a description of corrective actions taken.

Powdered Activated Carbon Injection System
For the activated carbon systems, the following records shall be maintained:

H. The average carbon mass feed rate (lb/hr) determined during annual dioxin/furan performance tests and mercury tests, with supporting calculations.

I. The average carbon mass feed rate (lb/hr) determined on an eight-hour block average basis during operation, with supporting calculations.

J. The total carbon usage for each calendar quarter, with supporting calculations.

K. Carbon injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon feed rate (e.g., screw feeder speed).

L. Identification of the calendar dates when the average carbon mass feed rates recorded were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions, with reasons for such feed rates and a description of corrective actions taken.

M. Identification of the calendar dates when the powdered activated carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate (e.g., screw feeder speed) recorded were below the level(s) determined during the performance tests, with reasons for such occurrences and a description of corrective action taken.

(23) Ash Handling System

A. There shall be no visible emissions from the Ash Handling System for more than 5% of the observation period (i.e., nine minutes in any three-hour period). [40 CFR §60.36b and 06-096 CMR 121 (5)(A)(10)]

B. Compliance with the visible emission limit for the Ash Handling System shall be demonstrated annually in accordance with EPA Reference Method 22 in 40 CFR Part 60, Appendix A.

The minimum observation time shall be a series of three one-hour observations. The observation period shall include times when the facility is transferring ash from the MWCs to the area where ash is stored or loaded into containers or trucks. The average duration of visible emissions per hour shall be calculated from the three one-hour observations. The average shall be used to determine compliance with the fugitive ash limit. [06-096 CMR 121]

C. Ash from each MWC and all ash and non-combustible materials culled from the ash handling system shall be sufficiently conditioned with water to render it dust-free, or shall be stored in covered containers or in a leak tight enclosure so as to prevent fugitive emissions. [06-096 CMR 140, BPT]

(24) Lime and Carbon Silos

A. Visible emissions from either the lime silo or the carbon silo shall not exceed 10% opacity on a six-minute block average basis.
[A-283-71-J-M (October 10, 2000), BPT]

B. ecomaine shall maintain and operate a fabric filter to control emissions during lime silo filling operations. Filling operations shall not be conducted without the proper use of the fabric filter. [06-096 CMR 140, BPT]

C. ecomaine shall maintain and operate a fabric filter to control emissions during carbon silo filling operations. Filling operations shall not be conducted without the proper use of the fabric filter. [06-096 CMR 140, BPT]

D. ecomaine shall maintain a log documenting all fabric filter malfunctions, maintenance, and repairs. [06-096 CMR 140, BPT]

(25) Emergency Generator

A. Allowable Operation and Fuels [06 096 CMR 140, BPT]

1. The Emergency Generator is licensed to fire distillate fuel.

2. The distillate fuel sulfur content for the Emergency Generator shall be limited to 0.0015% sulfur by weight.

3. Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier documenting the type of fuel delivered and the sulfur content of the fuel.

4. There is no time limit on the use of emergency stationary RICE for emergency purposes.

B. Emissions shall not exceed the following limits [06-096 CMR 103]:

Unit	PM (lb/MMBtu)
Emergency Generator	0.12

C. Emissions shall not exceed the following limits [06-096 CMR 140, BPT]:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator	0.63	0.63	0.008	16.8	4.46	0.47

D. Visible emissions from the Emergency Generator shall not exceed 20% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101]

E. Compliance with the emission limits associated with the Emergency Generator shall be demonstrated in accordance with the appropriate test methods upon request of the Department. [06-096 CMR 140, BPT]

F. 40 CFR Part 63, Subpart ZZZZ Requirements

1. Operation and Maintenance Requirements
   For the Emergency Generator, ecomaine shall comply with the following requirements [40 CFR §63.6603(a) and Table 2(d)]:
   a. Change oil and filter every 500 hours of operation or annually, whichever comes first;
   b. Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and
   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

   The unit shall be operated and maintained according to the manufacturer's emission-related written instructions, or ecomaine shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

2. Optional Oil Analysis Program
   ecomaine has the option of utilizing an oil analysis program which complies with the requirements of 40 CFR §63.6625(i) in order to extend the specified oil change requirement. If this option is used, ecomaine shall keep records of the parameters that are analyzed as part of the program, the results of each analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR §63.6625(i)]

3. Non-Resettable Hour Meter Requirement
   A non-resettable hour meter shall be installed and operated on the Emergency Generator. [40 CFR §63.6625(f)]

4. Startup Idle and Startup Time Minimization Requirements
   During periods of startup of the Emergency Generator, the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR §63.6625(h) and 40 CFR Part 63, Subpart ZZZZ Table 2d]

5. Annual Time Limit For Maintenance and Testing
   The Emergency Generator shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. [40 CFR §63.6640(f)]

6. Recordkeeping Requirements
   ecomaine shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded based on the non-resettable hour meter. Documentation shall include the number of hours of emergency operation, including what classified the operation as emergency, and the number of hours of operation for non-emergency purposes. [40 CFR §63.6655(e) and (f)]

7. If ecomaine operates or is contractually obligated to have this emergency generator available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in 40 CFR §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

   Director, Office of Ecosystem Protection
   U.S. Environmental Protection Agency
   5 Post Office Square, Suite 100
   Boston, MA 02109-3912

   [40 CFR §63.6650(h)]

G. Periodic Monitoring

For the Emergency Generator, ecomaine shall periodically monitor and record the information indicated in the following table.

Information	Units of Measure	Monitoring Tool/Method	Frequency
Fuel oil sulfur content	Percent, by weight	Fuel receipts from supplier	As fuel is purchased
Operating time	Hours	Hour Meter	Recorded monthly and totaled at the end of every calendar year
Reason for Operation	N/A	Logbook or similar documentation	As occurs

(26) Quarterly Reporting

ecomaine shall submit a Quarterly Report to the Department within 30 days after the end of each calendar quarter detailing the following for the control equipment, parameter monitors, Continuous Emission Monitoring Systems (CEMS), and Continuous Opacity Monitoring Systems (COMS) required by this license. [06-096 CMR 117]

A. All control equipment downtimes and malfunctions;
B. All CEMS or COMS downtimes and malfunctions;
C. All parameter monitor downtimes and malfunctions;
D. All excess events of emission and operational limitations set by this Order, Statute, state or federal regulations, as appropriate. The following information shall be reported for each excess event:
   1. Standard exceeded;
   2. Date, time, and duration of excess event;
   3. Amount of air contaminant emitted in excess of the applicable emission standard expressed in the units of the standard;
   4. A description of what caused the excess event;
   5. The strategy employed to minimize the excess event; and
   6. The strategy employed to prevent reoccurrence.
E. A report certifying there were no excess emissions, if that is the case.

(27) Semiannual Reporting

A. ecomaine shall submit a semiannual report that includes the following information for any recorded pollutant or parameter that does not comply with the applicable pollutant or parameter limit.

   1. The semiannual report shall include monitored information for SO_2, NO_x, CO, MWC unit load level, ESP inlet temperature, and opacity.

2. If the test reports document any particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable pollutant limits, the semiannual report shall include a copy of the test report summary pages documenting the emission levels and the corrective actions taken.

3. The semiannual report shall include information for the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate, as well as carbon feed rate data.

[40 CFR Part 60, Subpart Cb, §60.59b]

B. ecomaine shall notify the Department within 48 hours in writing of any malfunction or breakdown in any component part of a MWC which causes an emission standard to be violated. [06-096 CMR 104 (3)]

C. ecomaine shall submit to the Bureau of Air Quality semiannual reports which are due on **January 31st** and **July 31st** of each year. The facility's designated responsible official must sign this report. The semiannual report shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date. [06-096 CMR 140]

D. Each semiannual report shall include the quantities of natural gas fired and calculations of the annual capacity factor of natural gas fired in the two MWC units. [06-096 CMR 140]

E. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval. [06-096 CMR 140]

F. Each semiannual report shall include a summary of the periodic monitoring required by this license. [06-096 CMR 140]

(28) Annual Compliance Certification [06-096 CMR 140]

ecomaine shall submit an annual compliance certification to the Department in accordance with Standard Condition (13) of this license. The annual compliance certification is due January 31 of each year. The facility's designated responsible official must sign this report.

The annual compliance certification shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the Department within seven calendar days of the due date. Certification of compliance is to be based on the stack testing or monitoring data required by this license. Where the license does not require such data, or when the license requires such data upon request of the Department and the Department has not

requested the testing or monitoring, compliance may be certified based upon other reasonably available information such as the design of the equipment or applicable emission factors.

(29) Annual Emission Statement [06-096 CMR 137]

In accordance with *Emission Statements*, 06-096 CMR 137, ecomaine shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of either of the following:

A. A computer program and accompanying instructions supplied by the Department; or

B. A written emission statement containing the information required in 06-096 CMR 137.

The emission statement must be submitted by the date as specified in 06-096 CMR 137.

(30) General Applicable State Regulations

ecomaine is subject to the State regulations listed below.

Origin and Authority	Requirement Summary	Enforceability
06-096 CMR 102	Open Burning	-
06-096 CMR 109	Emergency Episode Regulation	-
06-096 CMR 110	Ambient Air Quality Standard	-
06-096 CMR 116	Prohibited Dispersion Techniques	-
38 M.R.S.A. §585-B, §§5	Mercury Emission Limit	Enforceable by State-only

(31) Units Containing Ozone Depleting Substances

When repairing or disposing of units containing ozone depleting substances, ecomaine shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioning units in Subpart B. Examples of such units include refrigerators and any size air conditioners that contain CFCs. [40 CFR, Part 82, Subpart F]

(32) Asbestos Abatement

When undertaking Asbestos abatement activities, ecomaine shall comply with the *Standard for Asbestos Demolition and Renovation*, 40 CFR Part 61, Subpart M.

(33) Expiration of a Part 70 license

A. ecomaine shall submit to the Department a complete Part 70 renewal application at least six months but no more than 18 months prior to the expiration of this air emission license.

B. Pursuant to Title 5 MRSA §10002, and 06-096 CMR 140, the Part 70 license shall not expire and all terms and conditions shall remain in effect until the Department takes final action on the renewal application of the Part 70 license. An existing source submitting a complete renewal application under 06-096 CMR 140 prior to the expiration of the Part 70 license will not be in violation of operating without a Part 70 license. Enforceable by State-only

(34) New Source Review

ecomaine is subject to all previous New Source Review (NSR) requirements summarized in this Part 70 air emission license and the NSR requirements remain in effect even if this 06-096 CMR 140 Air Emission License, A-283-70-F-R/A, expires.

DONE AND DATED IN AUGUSTA, MAINE THIS 22 DAY OF May , 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

[Note: If a renewal application, determined as complete by the Department, is submitted at least six months but no more than 18 months prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the Part 70 license shall remain in effect until the Department takes final action on the Part 70 license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 4, 2010
Date of application acceptance: January 5, 2010

Date filed with the Board of Environmental Protection:

This Order prepared by Jane E. Gilbert, Bureau of Air Quality.

Filed
MAY 22 2015
State of Maine
Board of Environmental Protection